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The ELEMENTARY COURSE of STUDY

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BULLETIN
233-B

THE INTERIM REPORT
.. 1949 ..



COMMONWEALTH OF PENNSYLVANIA
DEPARTMENT OF PUBLIC INSTRUCTION
HARRISBURG

DOCUMENTS SECTION

ADMINIS- TRATION
CLASSROOM LIVING
LANGUAGE ARTS
SOCIAL LIVING
ARITH- METIC
HEALTH
ART
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Chart

Nov Dec Jan Feb Mar Apr May June

New Words

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A Good School Is a Community School

Elementary Education

THE ELEMENTARY COURSE OF STUDY



BULLETIN 233-B

AN INTERIM REPORT

1949

COMMONWEALTH OF PENNSYLVANIA

DEPARTMENT OF PUBLIC INSTRUCTION

HARRISBURG

F O R E W O R D

WE BELIEVE that an improved State curriculum is achieved when the local interest of each community in improving its own schools is given status and increased impetus through the encouragement of a state-wide program, based upon this participation. Such a program for the elementary schools of Pennsylvania was launched in 1946 when Bulletin 233-A, *Local Participation in State-Wide Revision of the Elementary School Curriculum*, was made available to the teachers, supervisors, and administrators of the schools of Pennsylvania.

This bulletin is the course of study which grew out of that state-wide participation. It includes also the related material of school settings and administration procedures which are necessary to implement such a course of study.

The list of people who assisted in the production of this bulletin is long. It includes those who sent recommendations from the local communities; those who served through giving their counsel on various phases of education; those who were on the State Production Committees and did much of the actual writing of this bulletin; and those who read the manuscript in whole or in part and gave suggestions for its improvement. For section on Acknowledgments, see page 527.

The revision program has been under the general direction of Paul L. Cressman, Director of the Bureau of Instruction, and Leversia L. Powers, Chief, Elementary Education. Rachel S. Turner, Editor for the Department, has been responsible for the editorial work. The following staff members of the Bureau have been responsible for chapters:

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Superintendent of Public Instruction

January, 1949

THE LONG-RANGE PLAN

THIS IS the second in a series of three bulletins. Bulletin 233-A, *Local Participation in State-Wide Revision of the Elementary School Curriculum*, was designed to stimulate study and discussion, to promote immediate experimental application of plans of local schools, and to serve as a guiding framework within which production committees might work to produce the material for Bulletin 233-B.

This bulletin, 233-B, is a course-of-study bulletin indicating tentative scope and sequence, in terms of growth levels, in the various areas of learning or divisions of subject matter.

It is hoped that the use of Bulletins 233-A and 233-B will result in sufficient experimentation and evaluation to warrant the production of Bulletin 233-C within three or four years. Bulletin 233-C would then represent such further reorganization and refinement as are deemed advisable or necessary by the people of Pennsylvania who are interested in education.

P R E F A C E

In July, 1946, Bulletin 233-A, *Local Participation in State-wide Revision of the Elementary School Curriculum*, was issued as an organization guide.

During the fall of 1946, sixteen area meetings were held at teachers colleges for administrators and supervisors to set up the necessary machinery for local participation in as many localities as possible. During the fall of 1947 a second series of twelve area meetings was held at key cities. These were, in general, planned by and for the geographic areas involved and served to revitalize and redirect participation.

More than a thousand curriculum groups, with self-appointed chairmen and self-selected local problems, studied ways of improving their own elementary schools. A monthly *Newsletter* which reported local projects was sent to all administrators and chairmen. Study groups submitted recommendations which were classified and used by the State Production Committee in building this bulletin.

A public relations program has been maintained concurrently and will be expanded during the next few years. Representatives of lay groups were invited to Harrisburg to consider the whole problem of interest areas in relation to the elementary program. These areas were: alcoholic stimulants and narcotics; character and citizenship; conservation; consumer education; home and family living; humane education; intercultural education; nutrition; and safety. In the end the nine groups had a combined membership of sixty-four, representing approximately as many different organizations. Recommendations were submitted and used as resource material by curriculum revision groups.

Yearly meetings were held at Harrisburg (1947, 1948) to which editorial representatives of all companies publishing textbooks, children's books, encyclopedias, maps, and tests were invited. As a result of these meetings plans were drawn up whereby more productive use of the research resources, the professional services, and the professional materials of educational publishers could be made.

Yearly meetings were held to which representatives were invited from forty state-wide organiza-

tions. These included veteran, labor, education, health, professional, industrial, church, service, farm, business, and civic organizations. At these meetings discussion centered around the nature of the revision program, how certain aspects of education could be made more functional, and services which could be rendered by the various organizations.

Early in 1948 the State Production Committees were selected and organized—classroom teachers, principals, supervisors, superintendents, college faculty members, and members of the Department of Public Instruction. Local school boards in all cases cooperated by freeing committee members of local duties for an average of fifteen days each.

"Self-Evaluation of Elementary Schools," "Responsibilities of School Boards," and "A Guide for Child Study," were published by the Pennsylvania State Education Association, The Pennsylvania State School Directors Association, and the Pennsylvania Congress of Parents and Teachers in their respective magazines and reprints were made available.

This bulletin is unique to the extent that: (1) it has been built democratically on a state-wide basis by people who are going to use it; (2) much material is devoted to administrative plans and policies for the teacher, the administrator, and other school personnel to give impetus and direction to the curriculum; (3) the importance of the interrelationship between the course of study and the setting of the school plant and equipment is emphasized; (4) the scope and sequence of subject matter areas are defined in such a way that the use of local resources and teacher initiative are encouraged; (5) much provision is made for translating into action and social use all possible aspects of pupil learning; and (6) it contains suggestions on how to use the bulletin as a part of a long-term program of in-service growth of school personnel.

It is planned that all major group-participation be continued. The most important part of this whole program is seen as participation in the procedure of participation itself at the local level, in local problems, with the personal and group rewards that go with solving one's own problems satisfactorily.

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CHAPTER I

Administrative Policies and Procedures in the Light of the Developing Curriculum

OVERALL FUNCTIONS OF ADMINISTRATION

THE TERM "administration" as here used includes the local school board, the district and county superintendents of schools, the assistant superintendent, the supervising principal, non-teaching principal, the director or supervisor and coordinator of curriculum, and such teachers as have building or group responsibilities normally thought of as "administrative."

In many isolated, small school districts the local school board is almost the sole administrative agency, except for brief and infrequent visits and recommendations by the county superintendent or his assistant. Here the elementary school and program often suffer for lack of professionally trained leadership. Elementary schools in larger districts also frequently fail to perform a good educational job because an adequate staff of assistants, thoroughly versed in the techniques of elementary education, is not provided for administrators who do not have time for these duties. In the light of present-day trends toward school district reorganization, it seems that the day may not be far distant when all elementary schools, rural as well as urban, will have the benefit of direct year-round guidance and help from someone well qualified in elementary school procedures.

It may be said that the local board of education is, in the final analysis, the lay group created by school law to represent the Commonwealth and the local public and to provide a sound and efficient program of elementary education in each school district of the State. A good school board is vitally important. A skillful and experienced administrator, chosen by the board to be its professional leader, is the key, however, to an efficient program of elementary education for all the children of all the people. Complete cooperation between the school board and the administrator is essential. Together they are a team, each striving for the same goals, with neither able to reach them alone. Each must have the complete confidence, understanding, and support of the other, and together they should see that the administrator does not become so engrossed in and burdened with keeping the machinery running smoothly that the purpose of the machine is forgotten.

The lists of duties which follow are, of course, not complete. They are those which have particular significance to the elementary school curriculum.

THE RESPONSIBILITIES OF THE SCHOOL BOARD AS RELATED TO THE CURRICULUM¹

The school board's responsibilities in relation to the curriculum are:

1. To be the agent of the local public and the Commonwealth, with definite responsibilities under the School Laws of Pennsylvania.²
2. To delegate professional matters to trained personnel in carrying out its functions.
3. To choose an administrative head for its school system, who will prepare with the help of his teachers such a program of elementary education as they feel the community should provide for its children.
4. To approve the program of elementary education after due consideration and free, open discussion.
5. To provide adequate buildings, equipment, and teaching tools to carry on the approved program.
6. To define the spheres and areas of activity and responsibilities of the board and its employes in order to avoid duplication and conflict and to assure cooperation and teamwork.
7. To provide aid to teachers and other professional personnel in planning the school's program and to cooperate fully in its implementation.
8. To invite and encourage the public to participate in the improvement of the elementary school and to advise the public of needed and purposed changes or procedures before they are made.

DUTIES OF THE ADMINISTRATOR, WITH PARTICULAR REFERENCE TO THE CURRICULUM³

General Duties

All organization, administration, and supervision exist only for the purpose of providing the most effective curriculum and teaching. The main function of administration and supervision is to contribute to the actual education of children. All activities of all school workers must be evaluated in this light.

The general duties of the administrator are:

1. To initiate and direct a sound program of elementary education. The administrator will be given a free hand by the school board to carry out duties rightfully belonging to him when his professional and personal fitness is demonstrated.
2. To initiate programs and procedures gradually through the cooperative effort of those who will assist in carrying them out in the classroom.
3. To select carefully all professional personnel necessary to carry out the program.
4. To be responsible for the selection, training, and supervision of all non-professional personnel of the school or school district.
5. To make sure that the school is adapted to the child, and not the child to the school.
6. To be responsible for analyzing his community to establish school-building and plant needs to implement such a curriculum, and for initiating all immediate and long-term plans for such.
7. To make teacher-class assignments with the board's approval.
8. To set up definite procedures and criteria for the selection of textbooks, supplies, supplementary materials and equipment and make recommendations for the board's approval.
9. To control the equitable requisitioning, distributing, and accounting of supplies, textbooks, and equipment.
10. To be responsible for the effective operation of the school. Teachers, pupils, and parents with complaints, requests, and information should work through him. He should be the intermediary between the teachers, pupils, and parents on the one hand, and the board of education on the other.

¹"The Responsibilities of School Directors in the Current Program to Improve the Elementary Schools of Pennsylvania," Reprint from March, 1948 issue of *The Bulletin of the Pennsylvania State School Directors Association*.

²Sections 401, 402, 404, 405, 408, 601, 701, 1101, 1201, 1607, 1608, 1609, and 1610 of the School Laws of Pennsylvania.

³Sections 701-711, 807, 1123-24, 1142, 1149, 1205, 1214-15, 1611, 1613, 2224, and 3609 of the School Laws of Pennsylvania, and Bulletin 158, *Standards for the Education and Certification of the Administrative and Supervisory Officers*, 1939, Pennsylvania Department of Public Instruction.

11. To take the leadership in proposing policies necessary for the most effective operation of the schools, for the approval or disapproval of the board of education. Once policies are adopted, the administrator should be fearless in their execution. He is the executive officer of the board.
12. To plan the safest routes to school, for both buses and pedestrians.
13. To develop plans and procedures for curriculum and course-of-study revision.
14. To plan fire drills that prepare children for any type of emergency and see that these drills are periodically and correctly practiced.
15. To prepare a budget for board action, with particular attention to curriculum needs.
16. To administer such funds in all or part of the various budget divisions.
17. To keep the board informed regularly of the status of accounts in any such division of the budget that he is administering.
18. To promote salary schedules which will build good teacher morale. This morale is an important part of a good curriculum.
19. To develop an adequate system of financial accounting of pupil activities and other services, such as cafeteria, library, and audio-visual aids.
20. To be responsible for the establishment, proper care of, and use of any and all necessary school records, after recommendation to and approval by the board of school directors.
 - a. *Financial Records:* These are the direct responsibility of the board of education, especially the secretary and the treasurer. However, the administrator can be of valuable service to those officers by frequent inspection of the records, instruction or help in properly recording all items in the financial account book, making monthly reports to the board, preparing the annual budget, preparing statements for publication, and filling out applications for State appropriations.
 - b. *Teachers' Personnel Records:* Personnel cards are of utmost value. They should be kept up to date and filed carefully for frequent use. Rating cards showing strengths and weaknesses are required. Certification records showing training and certificates held are required. Health cards are required.

- c. *Pupil Records:* Many and varied types of pupil records are in use. The Cumulative Pupil Record Folder is emerging as most valuable. It is the resource material for good guidance.
- d. *Maintenance of Records:* The administrator is charged with the responsibility of training all professional personnel to do their part in making sure that all pupil records are properly recorded, are kept up to date, clear and legible, in a fireproof cabinet. A central fireproof file should be established in each school. Teachers should be required to become acquainted with the folders for all their pupils, at or before the beginning of each term, either by using them in the central file or by transferring the folders to a file in the classroom for frequent and constant use while school is in session. The administrator must be ever alert in the matter of all valuable records, must train teachers how to keep them and how to make use of them in all phases of their planning and guidance, for group or individual instruction. Several conferences must be held each school year dealing largely with records and reports. See pages 31-36.

Duties Concerning Teachers

The administrator's duties concerning teachers are:

1. To recommend teacher appointments, dismissals, promotions.
 - a. Investigate and select candidate for recommendation to the school board, which fixes salary and elects. Care should be taken not to raid other school systems deliberately. All children deserve good instruction.
 - b. Use professional criteria for the selection of teachers, determining that:
 - (1) Training, practice, and/or experience are right for the position to be filled, and proper certification is attained.
 - (2) Personality is suited to the age group to be taught.
 - (3) Personality indicates skill, leadership, enthusiasm.
 - (4) Record shows fine professional viewpoint, ability to cooperate, and the spirit of adventure.

- (5) Ability to make suggestions as well as take them is indicated.
 - (6) Record shows a sympathetic and helpful attitude based on a keen insight into human behavior.
2. To rate teachers on the quality of their instruction.
 3. To carry out supervisory duties for improvement of the learning situations. The administrator alone may carry out all the supervision that is done in his school system; or he may have assistance, such as an assistant superintendent, elementary supervisor (general or special), director of curriculum, or he may delegate all classroom supervision to others, under his direction. More and more the direction of supervisory activities should be toward the techniques of teaching, preparation for teaching, pupil response and progress. Only thus can the administrator become aware of the extent to which the desired elementary program is being carried out.
 4. To organize an induction program for teachers new to the system.
 - a. The administrator should not overlook the importance of orienting new teachers into his school and community. New teachers cannot be turned loose to forage for the objectives, policies, and philosophy of the school. Instead, they should be helped to establish rapport with the community as quickly as possible. If this important orientation is left to chance, the result may be wasted time and effort and misinformation on the part of the new teachers. The administrator, being the educational leader in his school and community, should see that this orientation is carried out. He may well delegate the greater part of it to a member or members of his professional staff.
 - b. New teachers should have placed in their hands at the beginning of the school year those items of information and helps which have to do with routine procedures. This information may be in the form of a brochure and may contain, among other things, such matters as time schedules, vacations, recess schedules, cafeteria schedules, bus schedules, teachers' meetings, professional and social activities, PTA, attendance reports, requisition and issuance of supplies, sick leave, and report cards. In addition, new teachers should have placed in their hands all curriculum materials to be used. These will include courses of study, textbooks, manuals, library lists, lists of equipment and materials, and the assigned list of pupils.
 - c. The next step in the orientation of new teachers should be a series of conferences, early in the school year, in which the administrator himself reviews carefully the policy and practices of the school and helps each teacher to formulate plans to put these policies and practices into action. Throughout the school year there should be periodic conferences with new teachers to help them evaluate their work and make new plans.
 - d. New teachers should be encouraged to get acquainted with the community and its people as soon as possible. They should know the various aspects of community living and the resulting influences upon the children they will teach. They should be encouraged to give some thought to contributing a portion of their extra time to community welfare. One good way to do this is to encourage teachers to join civic organizations as active members; however, they should be cautioned against over-participation at the expense of efficient service to the school.
5. To help teachers solve problems and adjust difficulties.
 6. To adjust pupil-teacher difficulties.
 7. To instruct teachers directly in methods of teaching through:
 - a. Classroom visitations, based upon a regular plan.
 - b. Conferences after visitation.
 - c. Supervisory bulletins.
 - d. Teachers' meetings dealing with live problems and issues of real concern to the group, carefully planned to solve real problems, not for purposes of routine administration. A good program would call for such meetings by buildings or in small groups, at about two-week intervals, certainly not less frequently than once a month.
 - e. Professional reading and study.
 - f. An adequate professional library.
 8. To provide in-service training of teachers.

Even with very desirable buildings and equipment, and with most liberal leeway in the selection of his force, no administrator in the

average public school system is so fortunate as to build a perfectly self-contained faculty. Therefore, in-service training should be a continuous program in all school systems in order to challenge the best teachers, to upgrade less able teachers, and to provide a means of developing leadership among the staff members.

Space cannot be taken to enlarge upon all the excellent and varied plans used in many county and local school systems to stimulate teacher in-service training. Whether or not such participation should be voluntary or required is a moot question. If the problems to be studied are selected in a democratic way through teacher participation in the planning, wide participation on a voluntary basis will be assured. The use of vital classroom problems with experimental tryouts is both stimulating and contagious in any group. However, local as well as county administrative leadership is needed to secure maximum consistent progress and results of real professional value. Teachers hesitate to initiate new procedures and practices unless they feel that they have administrative backing. It is safe to say that since the enthusiasm displayed by pupils is largely a reflection of that received from the teacher, the whole-hearted interest shown by teachers in a professional improvement program is largely a reflection of the professional leadership exhibited by the administrator.

Types of In-service Training Plans include:

- a. Monthly meetings for the purpose of improving classroom techniques—experimentation, guided by a consultant from a near-by college or by an able local person; reports on progress and results.
- b. Workshop Plan—one or many groups of teachers, each interested in specific problems, intensive study, exchange of ideas, and suggestive procedures. This procedure calls for a week or several weeks, one or more guides or consultants, and appropriate budget planning.
- c. Self-Evaluation—by individual teacher, or by faculties, through the study and checking of evaluation charts and scales.¹
- d. Visiting Days—under careful direction and assignment by the administrator or super-

visor, teachers are given one or two days each year to visit outstanding teachers to see good teaching techniques in action.

9. To supply teachers with a specific list of community resources.

In order to make the best use of community resources each district or county superintendent should assemble, or cause to be assembled, a specific list of community resources. This list should be brought up to date yearly and distributed to all teachers under his jurisdiction. Teaching teachers how to use such a list wisely should be a part of his plans for both the induction of new teachers and the continuous in-service training of all teachers.

Such a listing might be so arranged as to include:

- a. Delineation of local rules and procedures concerning pupil permissions, responsibility, insurance, transportation, and like problems.
- b. *Places.* (1) List names of persons to contact for making arrangements to visit, with phone numbers, and/or mailing addresses; number of pupils who may visit at a time, age limits and other data; how to get to each place listed, cost (if any), and any other pertinent data. (2) Educational values of each place—what can be seen, demonstrated, enjoyed, or otherwise experienced.
- c. *People.* List all people by name, with phone numbers and/or mailing addresses, who will demonstrate, or show good pictures, or help in any way. (For example: the nurse, the postman, a miner, a traveler.)
- d. *Local materials.* Private collections, hobbies, industrial exhibits and the like, that can be brought into classrooms for short periods. Conditions under which they may be obtained should be clear.
- e. *Books, maps, and other printed materials.* "What to Read About Pennsylvania," Pennsylvania Historical Commission, Museum Building, Harrisburg, Pennsylvania, will be helpful with this problem. This Commission can also give you information about local historical societies or resources.

The local Post Office Department, Chamber of Commerce, librarian, telephone company, and similar organizations, often have maps and surveys or other materials.

- f. *Natural resources.* Local flora and fauna, geological resources, and the like.

¹"Elementary School Self-Evaluation." Reprint from April, 1948, issue of *The Pennsylvania School Journal*. Available from Division of Elementary Education, Department of Public Instruction, published by the Pennsylvania State Education Association, 400 N. 3rd St., Harrisburg, Pa.

- g. *Coordinating agencies and services.* Names, addresses, telephone numbers of people or agencies which supply certain services for children with special physical, emotional, or social needs. (Service clubs, churches, agencies, state clinics, and the like.)
- h. *Recreational facilities, hobby groups, and the like.*¹ List all age limits, regulations, costs involved, and all pertinent data.
- i. Others.

Duties Concerning the Pupils

The administrator's duties to the pupils are:

1. To keep accurate and complete pupil accounting records, including school census reports and monthly reports of attendance of pupils, properly summarized, and to see that all children of the district, including the home-bound, have adequate school facilities available.
2. To set up and administer adequate provisions for recording absences and tardinesses of pupils and for promoting regularity and promptness in attendance.
3. To establish an adequate permanent record system to provide for the educational guidance of pupils.
4. To evaluate effectiveness of instruction by proper uses of modern measuring devices to assist teachers in making resulting data an integral part of their teaching plans.
5. To provide for the organization of pupil activities in school and community, such as coordination of activities with local boys' clubs.
6. To prepare lists of tuition pupils.
7. To develop and administer policies for the discipline of pupils.
8. To develop policies concerning the assignment of pupils to grades or rooms or teachers and to assist teachers in applying those policies.
9. To provide for the needs of exceptional children.

The administrator has definite responsibility to provide the leadership necessary to bring the problems arising in connection with exceptional children to the attention of school board and teachers and to assist with or make definite recommendations for their solution.

¹A chart to show these by age groups and by neighborhoods will often reveal the "spots" that need attention.

Gifted Children

Children with above-average capacity receive less understanding treatment in many situations than those with clear-cut handicaps. When such children are content to go along with the average group, they do the work easily in a fraction of the time, then loaf or get into mischief, and develop poor habits and attitudes. If a satisfactory challenge to their ability is not provided, they may even become indifferent, and cease to do any work well.

Judgments should be based on two factors, individual test results and an evaluation of typical school performance. When it is definitely determined who these few outstanding pupils are, the administrator and the teacher should immediately outline an enriched program. Enriched activities in the language arts, art, music, arithmetic, elementary industrial arts, responsibilities for assisting others, individual projects, journeys, and reports, and opportunities to use special skill and ability, are then provided. These serve as a challenge. Such children must not get the impression through their school experiences that life is always smooth and easy, with no difficulties to overcome. If their talents are recognized and properly developed, this small group should provide our country with many outstanding leaders in government, the professions, and business.

Handicapped Children

Whether the handicap is physical or mental, it must be carefully diagnosed and everything possible done by the parents, the school, and the community to remove or improve the condition. When school and health advisers are reasonably sure that no further remedial measures are possible, then the administrator must decide whether the case can be handled in the regular classroom or should be referred to a special class or a special school. Great progress has been made in Pennsylvania in assisting even the most remote schools to diagnose and treat such cases. Large and wealthy school districts have made great advances in humane and scientific treatment of handicapped children. Since 1939, the small borough and township schools have begun to appreciate and ask for the services of the County Supervisor of Special Education. Special classes cannot always be established because of distances involved and teacher and room shortages. However, calls

from and conferences with teachers are beginning to show results in improved intelligent handling of such children in the regular classrooms, where most of them must remain. See Chapter IX.

Duties Concerning the Non-Teaching Staff

The administrator is the educational leader of his staff, and the one to whom all look for help and guidance. In a large school system or county, he must delegate much of the work to assistants and supervisors. However, all school activities must come under his general direction and have his approval, even though his staff are given a free hand to carry out plans under their own initiative.

Staff meetings should be held at regular intervals (weekly, bimonthly, or monthly) so that the program of elementary education may be a cooperative venture. Staff meetings also provide the administrator with the means of coordinating the work of community agencies with the school. Staff meetings should coordinate the work of

1. *The Custodian and Maintenance Staff.* The building and grounds must be kept clean, attractive, comfortable, and ready for regular and community use.
2. *The School Nurse.* Her service is of vital importance to the health and welfare of all. A good nurse is an important public relations agent for the school. She should not be asked to take on the duties of the attendance officer. Such work hinders her effectiveness as a nurse and destroys the confidence and cooperation of many homes where nurse service is needed.
3. *The Dental Hygienist or School Dentist.* She not only teaches facts but influences largely life attitudes toward oral hygiene. She makes home contacts and does follow-up work as necessary.
4. *The Medical Examiner or School Doctor.* His assistance and cooperation are of utmost value.
5. *The Psychologist.* Teachers should seek her expert advice for all cases of affective-behavior and maladjustment of personality, and procedures should be set up to insure the best use of this specialized service.
6. *The Office Secretary.* Her service is of great value in contributing to the efficiency of the administrator's work through accuracy in keeping records, writing letters, and taking mes-

sages. Courtesy in answering the telephone and in meeting personal calls is a part of a good public relations program. Utmost care in handling all incoming and outgoing mail makes for efficiency.

7. *Cafeteria Manager and Helpers.* The duties of these employes are part of both the health program in nutrition and the whole program of social competence.
8. *Bus Drivers.* These employes have a part in the safety program and in developing social competence.
9. *Others,* such as special subject supervisors, full-time paid school board secretaries, assistant superintendents, and guidance directors, have special functions which should be understood by all.
10. *A highly qualified director,* or general supervisor, or curriculum coordinator in charge of the whole elementary program is a great asset to any system.

Public Relations

1. Every administrator should know his public, the community which he serves, and the people among whom he lives.
2. The success and improvement of any elementary school system depends largely on the attitude he fosters in the public toward the school, the school system, the teachers, and the administration.
3. He should invite and encourage the public to use its schools for all legitimate adult extension education and community programs, with or without charge.
4. He should occasionally send notes or letters to parents interpreting what the schools are doing and why. Notes to parents concerning their children are more effective when they praise than when they blame.
5. He should invite parents to visit the schools on Parents' Night. Children may conduct their parents through the building to view exhibits and to introduce them to teachers. Special Visiting Days may also be arranged.
6. He should manage to have pupils make excursions to points of interest—educational, historical, industrial. The administrator, too, should visit them and become personally acquainted with the leaders of his community who will be his helpers and friends.

7. He should use the newspapers, the radio, the service clubs, the Chamber of Commerce, and other civic organizations to interpret the schools to the public. All are interested in the type of education provided for their children. He should help the public to know its schools and point out both their strong points and their needs. Active participation in civic organizations by school personnel is a good way to interest the public in the school's needs.
8. The administrator should attend Parent-Teacher Association or Home and School Association meetings at least once or twice a year. He should cooperate with them and encourage them to undertake worth-while efforts and projects through maintaining close contact with their officers. As organizations of national, state, and local influence, both are recognized as having splendid purposes, high ideals, and worth-while specific objectives. They always have given and will continue to give an outstanding contribution to better relationships between the home and the school. Their contributions of goodwill and helpfulness can be measured in terms of better schools, better education, and better understanding between the school and community. Where such valuable by-products have not resulted, the unfavorable reactions must be attributed to misguided school or association leaders.

Parent Associations can see to it that playgrounds are equipped, schoolrooms brightened, school libraries improved, visual aids equipment, musical instruments and uniforms provided, teachers helped with various musical or dramatic programs, preschool clinics promoted, kindergartens sponsored, school lunch programs organized and carried on, good public opinion created, and needed school legislation initiated and supported.

However, a word of caution to administrators and teachers should be injected. When a local parents' organization is not using its energies in worth-while projects, or is unduly influenced by misguided persons, it may do great harm and fail completely to fulfill its purpose by dictating to, criticizing, or putting pressure on the school board, teachers, or administrator. Such action is strictly against the constitutions and by-laws of the organizations and may destroy that desirable cooperation for which the organizations were created.

Intercultural Education

Intercultural or intergroup education is the intentional effort, through education, to create in children an understanding of the total cultural pattern of American life, its diversities, and its common ideals. It attempts to increase the respect of people for one another and for the groups to which they belong. It attempts to set up, cooperatively, democratic living and working conditions among people of different faiths, racial strains, nationality backgrounds, or socio-economic conditions.

What more important responsibility do the schools of America have today than to weld together the many elements of our population into a strong, vigorous, virile whole? Our goal as a nation, "*E pluribus unum*," must be achieved in large measure through our schools.

We can think of America as a great symphony orchestra. The most beautiful music is not created by a hundred violins, even though played ever so skillfully. It is the diversity of instruments, each playing its own part, that creates true beauty.

The whole field of intercultural education and intergroup relations is of such great significance that the administrator must be alert to its importance and must assume direct responsibility for its projection and growth. He must not only see that the improvement of human relations is a part of every aspect of the curriculum but must see that the local school program contributes to group understanding and living within his community. Since work in this area is of such significance as to involve the entire community, the board of school directors should be closely associated with the administrator in approving and implementing a cooperatively developed program.

The best programs in intercultural education are developed largely in terms of the needs of the children of the immediate community served by the school. Any program, however, will involve definite steps based on our democratic faith, our religious belief in the fatherhood of God and the brotherhood of man, and our scientific findings.

Since such a program, to be successful, must be planned in terms of the needs and potentialities of the particular community and should be continuous in its development, the administrator "dare not jump on his horse and ride off in all directions." He should first determine what has to be accomplished, where he can get the most effective help, and how such help can best be used by the school system.

Education in this area should not be confused with "a big show." It is much sounder to proceed with forethought and understanding.

Administrators do not come to their work fully trained in the field of human relations. They, too, need a "growing period." They need help from the larger community in defining the problems and in thinking through the problems of intergroup understanding and cooperation.

In carrying on a program of intercultural education, the administrator will want to become acquainted with the on-going activities in this field in many parts of the country. Numerous articles in our better educational periodicals are directed toward the improvement of human relations. The State Department of Public Instruction, the State Education Associations, the National Education Association, the American Council on Education can be helpful. The Bureau for Intercultural Education, 157 W. 13th St., New York 11, New York, has latest information concerning scientific studies and programs in intercultural education. The Fellowship Commission, 260 South 15th St., Philadelphia 2, Pa., has an outstanding collection of books, periodicals, magazines, and pamphlets dealing with this topic. Colleges and universities may be called upon for advice and help in the organization of intergroup activities and in the development of curriculum materials.

The administrator should—

1. *Provide strong, courageous, imaginative, inspiring, and positive leadership in the improvement of human relations.*

The most important contributions to good human relations can be made only by the administrator who is strong in his devotion to democracy. Such an administrator is growing in his own knowledge and insight, is constantly assessing his own strength and weakness. He is primarily interested in preparing himself and his teachers in terms of the requirements of a dynamic democracy. He seeks new sources of leadership in this field and makes them available to his teachers as needed.

Democracy is not negative or neutral. It is a positive thing. A good administrator in this field takes a stand with his teachers, his board, and his community in favor of the development of good human relations and backs up those intelligently at work in this field who need his support.

2. *Help develop and coordinate the over-all plans.*

Singing spirituals, having a unit on Eskimos, or sending a note to teachers, is not a satisfactory or sufficient program for building better human relations. A good program has a certain internal balance and probably needs thought and work along at least four lines:

The kinds of decisions that administrators and teachers make.

Consideration of the curriculum in its broadest sense.

Pre-service and in-service preparation of teachers.

The quality of school-community interaction.

The administrator who senses carefully the timeliness for social change and develops a quality of action to involve both the more timid teachers and the more courageous in a constructive, forward-looking program is likely to be most successful.

Much of the success of this effort will be due to the assistance of the administrator in making provisions for the services of those who have given most thought to this activity and in supplying the time and materials necessary for its further development. This cannot be accomplished in a subject-centered curriculum.

The administrator will assume the responsibility for inaugurating a cooperatively formulated program of continuity and breadth for all children that come under his supervision.

3. *Keep within the framework of our religious ideals, our democratic creed, and our scientific findings in all administrative decisions.*

No intercultural program is good unless the day-to-day and long-term decisions of school boards and school administrators are good interculturally. Such questions as the following must be answered in terms of the above framework:

What types of education are available for all the children of the community?

Are we determining in our schools that certain groups shall be "hewers of wood and drawers of water"?

Do we segregate children for reasons that are undemocratic?

How are our school boundaries determined?

Who goes to special class and why?

What about rewards and punishments?

Do we give sufficient consideration to employment and transfer of teachers?

What kind of welcome do we give new people in our school and community?

It is not easy to answer all these questions. Social change in a democracy is frequently slow, partly because there is considerable personal and group insecurity. We can evaluate our condition intelligently, however, and establish goals.

4. *Open channels of participation to such an extent that the full ability of the staff and of the larger community can be used freely in the achievement of immediate and long-term goals.*

The administrator is not the boss, but one who is able and willing to work cooperatively with an ever-expanding group toward ends that are good. People must have a hand in saving themselves.

He can give special recognition and encouragement to leadership in school and community of those working toward better intergroup understanding and utilize as fully as possible the services of those who have grown. His personal participation in programs and activities with intercultural significance helps to lend the sense of importance to these endeavors that they deserve. He will encourage different people of the school and community to come together in various relations to work on different problems. These people, then, are disposed to exert themselves increasingly in behalf of others.

5. *Direct guidance in such ways that children are not prevented by race, creed, color, or socio-economic conditions from securing full participation in school activities and offerings, and give optimum opportunity for the development of individual abilities and talents.*

Awareness of what is happening to the various children of the school as they move through the school and out into the community is of great importance. Are they met by sympathetic and understanding teachers? Are the teachers aware of the cultural backgrounds, hopes, aspirations, and motivations of the pupils? Are the children, particularly those of minority groups, helped in securing full representation and participation? Are the texts, films, speakers, and agencies which are used by the school of sufficient breadth to provide nourishment and help for all children? Is opportunity

in industry in our community sufficiently democratic to utilize the talent and ability of all of our children?

Much attention should be given by the administrator to the handling of such problems.

6. *See that as the social philosophy of the community or nation advances, the school or school system keeps pace and in some areas assumes leadership in a more democratic way of life.*

To meet this need an administrator:

- a. Assures himself that the teaching staff are relatively free from prejudices and that they are fully in sympathy with the projected program.
- b. Selects and trains teachers in accepting children as human beings, not automatons. Only as a teacher learns to deal with any child as a human being can she be trained to deal adequately with children of minority groups.
- c. Works to create school conditions favorable to a good state of mind on the part of teachers.
- d. Emphasizes in-service courses in intercultural education and in the basic sciences that underlie this.
- e. Provides a program that allows all teachers to practice the ways of democracy.
- f. Takes the lead in working out a plan with his teachers for the proper observance of all special occasions that may or should be recognized in the schools because of their special relation to the curriculum, their value in training for good health, citizenship, and character.
- g. Increases opportunity for teachers to use their own classrooms as laboratories for democratic practices.
- h. Makes information and new techniques for this work available.
- i. Calls for and secures the support of the total community.
- j. Utilizes intercultural committees within the school in anticipating issues, providing helpful counsel, forestalling pressures of selfish groups, promoting unity of effort, and making suggestions for the curriculum.

Safety

The school administrator emphasizes safety education.

I. A CONTINUOUS SAFETY PROGRAM COINCIDES WITH THE PURPOSES OF THE SCHOOL AND IS WELL INTEGRATED WITH ITS TOTAL PROGRAM

The most effective learnings in the elementary school take place only when interest is demonstrated on the part of all concerned. Effective habits and attitudes necessary for safe living will result only when real interest in this phase of learning, backed by public opinion, permeates the school administration, instructional staff, and individual classroom. The program should reflect truly cooperative thoughts and action. When such wide interest and cooperative efforts exist, sound and gradual growth in safety habits and attitudes rather than spasmodic progress is made possible. In order to obtain unity of effort in the school program, agreements must be worked out between various departments of the school system or between various responsible individuals as to the definite areas of responsibility and action.

Adult interests must be utilized in order to obtain the best possible results. As behavior patterns are formed in early youth, it is essential that parents and the school agree on the job to be done.

II. FUNDAMENTALS IN EDUCATION FOR SAFETY

In the approach to safety in the modern school, teachers and principals may find useful a concisely stated "set of principles" in Education for Safety which give direction in the planning of an adequate safety program. Consider the following:

1. Protection of child life is a major educational objective. It cannot be accomplished by haphazard, incidental instruction; it must be planned. The school's responsibility in this field is no longer a controversial issue.
2. Emphasis should be placed on constructive safety practices. It is undesirable to place stress on the negative and morbid aspects of failure to act safely. Safety education should not put a brake on action. The inculcation of needless fears and unnecessary inhibitions must be avoided.
3. Participation is basic to success. The school program in safety must be implemented in such a manner as to involve every member of the school staff, as well as every child.
4. An accident accounting system constitutes an integral part of planning for safety.

5. Many phases of instruction in safety are made more effective by dramatic appeal.
6. The seasonal approach to safety is effective in meeting changing needs around the year and in lending variety to the instructional program in safety.
7. Safety considerations are an important part of the planning of any special school event. Special activities, such as excursions, poster contests, picnics, parades, radio and television programs, athletic contests, neighborhood walks, and school dramatics or festivals, afford opportunity for the cooperative formulation of safety standards and the development of proper safety practices.
8. Safety "weeks" and like observances should be an integral part of the safety plan.
9. Proper planning involves local and city-wide research in order to be able to meet community needs and to eliminate safety hazards.
10. The local school plan for safety must utilize the total safety resources of the community.
11. Essentially, safety results from proper attitudes. Attitudes favorable to safety should pervade the school's total program.
12. Evaluation and resultant improvement should be in terms of reduction in the number and seriousness of accidents and near-accidents, in the development of improved safety practices and attitudes, in increase of the amount and quality of participation in safety activities, in the attainment of a constantly improving community attitude toward the school's safety program.

III. THE FUNCTION OF THE ELEMENTARY SCHOOL IN EDUCATING FOR SAFETY

Education for safety at the elementary school level involves four fundamental tasks:

1. The provision of abundant amounts of participation in genuine safety activities for as many pupils as possible.
2. The development of consciousness of the need for safety from as many real-life and constructive approaches as possible. Such consciousness must be continuously aroused and consistently maintained.
3. The formation of those personal habits most essential to safety.
4. The coordination of school and community effort.

The first of these items tends to make the individual personally responsible for his own safety and relates his safety performance to that of all others; the second lends importance to the need for safety and serves continuously to motivate safety instruction; the third provides those essential automatic responses which prevent accident and save life in hazardous situations; and the last aids in making safety a coordinated community responsibility, shared by all.

IV. YOUR SAFETY PROBLEMS

In determining the problems which need solution first, in other words, in establishing your priority order of safety emphasis, you will want to conduct a survey of school, street, community, home, and special activity hazards. The classification listed below offers many suggestions for study. Awareness of hazard will usually be followed by the desire to do something about the situation. "Doing something about it" involves discussion, planning, decision, participation, and checking results. Which of those listed are most important for you to work on? Add others as needed. The outline to follow is an adaptation from the excellent references listed in the footnote.¹

1. Problems in the School:

- Unsupervised play
- Wild running at recess and dismissal
- The shop
- Stairways
- The fire drill
- Play hazards on school grounds

2. Problems in the Street or on the Road—Pedestrian Education:

- Playing in street
- Indifference of drivers
- Dangerous intersections
- Traffic signs and lights
- Walking on open road
- Bicycle hazards

3. Problems in the Home:

- Falls
- Fire prevention
- Burns and scalds
- Careless use of knives, scissors, cutting instruments
- Firearms
- Falling objects

4. Problems Involving Special Activities of Children:

- Baseball and similar games
- Winter sports
- Bicycling
- Roller skating
- Swimming
- Playground hazards

In meeting these problems certain "safety habits" will need to be developed. A brief statement concerning the selection and development of such habits seems appropriate.

It is a fallacy to assume that because the children of a given school do not normally meet certain hazardous conditions, they need no instruction in safety beyond their immediate needs. However, immediate and local needs must come first. These ought to be determined cooperatively in terms of the local situation and accident facts generally. Thus a sort of "habits of safety" priority list can be readily determined. The entire staff should then follow through with vigor on the development of these fundamental habits. It is suggested that:

The number of habits selected for special consideration be kept at a minimum

They be selected by all persons involved, pupils and teachers, parents and others

They be enforced without exception, and that

The reasons for their selection and enforcement be understood, as nearly as possible, by all

V. PARTICIPATION IS BASIC

Participation is fundamental. Every elementary school should:

1. Maintain a constantly improving safety patrol.
2. Perfect within each classroom some sort of classroom organization for safety, to operate at the individual class level, no matter how advanced or retarded, or how mature or immature in development.
3. Give consideration to the possibilities of other "junior safety organizations," with representation and activity involving the entire student body.
4. Insure staff participation in the development and execution of school policy concerning safety, including the evaluation of highway safety procedures. The organization of the school to include the appointment of a "school coordinator" for safety is one of the best ways of attaining full staff cooperation.

¹NEA Department of Elementary School Principals and the National Commission on Safety Education, *The Elementary Principal Plans for Safe Living*, Part I and *Teachers and Children Plan for Safe Living*, Part II, 1945. Price, thirty cents each.

Participation Involves the Community

Safety is a community objective; the school cannot act in isolation. Parents' organizations, the police and firemen, adult groups of civic-minded persons, and accident prevention agencies will take part in planning the program, and they can all participate to some degree in executing it. The whole community should participate, coordinate, and cooperate in safety ventures.

What Types of Participation Are Appropriate?

A survey of professional personnel, safety agencies, and lay persons throughout the State of Pennsylvania revealed many activities which are expressive of varied types of school-community participation. The following list divides these into two types: first, a group of activities for which the principal usually, although by no means always, assumes initiatory responsibility; the second group, usually initiated by the classroom teacher, is given in Chapter II, "Classroom Living and Management." An asterisk (*) indicates high frequency of mention among those who filled out details concerning avenues of participation.

The Principal Usually Assumes Responsibility for Initiating These Activities:

- Organizes safety patrol*
- Provides for organization of safety committees throughout the school*
- Plans the program, with cooperative assistance*
- Sets up safety clubs*
- Gives special safety talks in assemblies*
- Sets up safety committees among staff*
- Conducts safety demonstrations*
- Arranges for state or local police to address pupils*
- Participates in safety drives*
- Organizes patrol for within-school service*
- Organizes fire drills*
- Organizes first aid classes*
- Stimulates use of visual aids and other materials.*
- Arranges for PTA activities by students*
- Evaluates procedures in safety with appropriate cooperation*
- Prepares and distributes safety check-lists*
- Develops community activities*
- Organizes junior safety council*
- Organizes poster displays*
- Arranges for traffic survey related to school*
- Organizes school bus safety procedures*
- Makes effective use of school paper*
- Organizes "Junior Fire Fighters"
- Considers school membership in Safety Councils, national and local

- Organizes bicycle clubs and inspections
- Prepares and distributes safety letters to parents
- Organizes safety clipping service for school
- Encourages dramatization and improved teaching techniques
- Organizes neighborhood safety-hazard survey
- Encourages "hazard" reporting
- Organizes model traffic setup
- Assists in the elimination of community hazards
- Organizes accident reporting system; evaluates findings in terms of instruction
- Assists in Survey of the Causes of Fire for local community

VI. ROLE OF SCHOOL PERSONNEL IN SAFETY EDUCATION

The Principal

In addition to the above activities, the principal has a major function in determining:

- Safety needs of pupils and community
- Amount of safety education in the curriculum
- Status and efficiency of the accident reporting system
- Degree of "safety consciousness" in the organization
- Adequacy and use of instructional materials
- Problems involving pupil transportation
- Functioning of pupil safety organizations
- Need for in-service education of the teachers
- Relation to the police authorities of the area
- Compliance with legal provisions concerning safety, such as the fire drill
- Hazards existing in or near the school
- All other determinations affecting the present safety and educational possibilities for the future safety of the pupils

The principal's function goes beyond determining these needs to the initiation of appropriate measures to satisfy them.

The Classroom Teacher

In general, the teacher decides on the specific objectives for teaching safety within her own classroom. She determines individual, class, and community needs and fits her instruction into the classroom program.

While the principal may offer suggestions and provide materials of instruction, it is the teacher's responsibility to become acquainted with successful instructional practices, available material, and sources of assistance.

Contributions of the teacher to faculty planning in safety are an important function of the teacher.

Special committees on playground safety, courses of study, safety habits, coordination with community efforts, are appropriate avenues of participation for the teacher.

Other Personnel

Securing the assistance and cooperation of all the building personnel is an essential step in developing a well-balanced program of safety education.

The *medical inspector* and the *school nurse* are an asset to the safety program. A medical examination is a good beginning for safety planning, particularly at the kindergarten or first-grade level. Good health is essential to safety. Those children who appear prone to accidents should be carefully examined for vision. Many accidents which on the surface do not appear to be serious may need the advice of the nurse or doctor. A notation of each child's accidents and the treatments should be made on his cumulative school record, with the necessary follow-up to assure treatment and corrections.

The *custodian* should be brought into the safety program. He should be familiar with the aims and objectives of the program. All potential accident factors relating to the structure and condition of the building need his attention. He may be called into the conferences of the Safety Council. His interest will grow as he participates in the planning.

The *school bus driver* has an important role in the safety program. He needs the support of the school in making bus transportation safe. His problems may make a good assembly program. He may want to discuss:

- Discipline on the bus
- Safety monitors
- Getting on and off the bus
- Protection in case of illness
- Protecting children while they wait for the bus
- Bus safety inspection reports
- Bus schedule and pupil load
- Bus accident reports

The *teacher of physical education and health* is a key person in the safety program. His counsel and cooperation are needed. Many school accidents occur in the gymnasium and on the playground. His special knowledge of the proper play equipment, organization of the program, and the types of games that fit special needs, is a valuable asset. Physical fitness plays an important role in accident prevention. He should also be specially qualified in the techniques of first aid.

Teachers of art and music need to understand fully what the school is trying to do in its safety pro-

gram. They can help with posters, advise on related safety activities, and inspire the children through creative work.

VII. COMMUNITY AGENCIES WILL ASSIST IN SAFETY EDUCATION

In the survey and questionnaire previously referred to, the following question was asked: "Will your community share in safety education?" Subsidiary questions were: "What services are there in your community which teachers can tap to make their safety instruction more effective?" "Would the safety services of your town or community cooperate in helping children solve their safety problems?" "How can school-community cooperation be best advanced?"

The replies to these questions indicate that many school administrators have experienced a considerable amount of high quality cooperation from the basic community services. The following community agencies, mentioned in order of frequency, expressed either a high degree of past cooperation or an assurance of future aid:

- Police departments
- Automobile clubs
- Fire departments
- Parent-teacher organizations
- Safety councils
- Red Cross
- Boy and/or Girl Scouts
- Service clubs
- Public health services and/or hospitals
- Pennsylvania State Highway Department
- Industrial concerns
- Newspapers
- Community associations
- Transportation companies
- Religious groups
- Insurance companies
- Telephone and telegraph companies
- Dairy companies
- Garages
- American Legion
- Neighborhood stores
- Traffic engineers
- Chamber of Commerce
- Junior Chamber of Commerce
- Motion picture houses

The replies were practically unanimous in agreeing that the agencies stated were not only willing, but eager to cooperate. In many cases this statement was based on past performance. A few cited group achievements in safety projects. However, it was also clearly indicated that the problem of initiating

cooperation was usually up to the school and that holding goodwill depended much on the manner of working together which has been traditionally established.

VIII. ACCIDENT REPORTING AND RECORDING

Valuable Use Can Be Made of Accident Records

Records must serve a real purpose. Recording and reporting of accidents for statistical purposes only, are largely a waste of valuable time. However, an adequate accident reporting system can provide:

1. Materials for continuous and intelligent curriculum planning. Records help answer the question of what safety practices and attitudes should be taught, and when.
2. Problems valuable to the various student organizations in developing their programs on safety. The traffic squad, for example, learns where the traffic accidents occur. The playground supervisor knows what equipment needs special supervision.
3. Information to help the supervisor in advising on the course of study and practices in safety instruction; information for placement of individual responsibility for safety teaching or supervision.
4. Data which the principal can use in planning his program and soliciting the aid and cooperation of other community agencies for safety and in making the group aware of the seriousness of the local accident situation, through such publicity material as graphs, spot maps, etc.
5. Assistance for individual student guidance. What special characteristics of the individual contributed to the accident? What hazards may be anticipated when the child is not under school control?
6. Identification of hazards useful in modifying and improving the structure and use of school buildings or playgrounds and equipment.
7. Questions to be considered in parent conferences.
8. Legal data for the school personnel and the school board in case of accident litigation.
9. Accident facts which suggest special drives and campaigns, as a means of convincing board members and parents of the necessity for the removal of hazards, and lead to greater community interest.

Develop a System to Suit Your Needs

Types of accidents vary according to area, age, grade level, activity, and season of year. Each must be given its proper place in the school and grade program and emphasized when necessary. The student accident monthly summary report, prepared by the National Safety Council, offers help on a reporting plan. The reporting system for an individual school should be adapted to community needs and personnel available for preparing such reports, and where possible should be coordinated with the reports of the National Safety Council.

IX. EVALUATION OF THE SAFETY PROGRAM

Many schools have been content to possess only a Safety Patrol and to conduct activities incident to the proper organization, stimulation, operation, and support of the patrol. Without discounting the importance and dramatic appeal of the patrol, it is appropriate to point out that efficient safety programs go far beyond that stage.

In a rapidly increasing number of schools, classrooms are encouraged to produce assembly programs on Safety and to include a variety of classroom safety activities. At first these activities are planned in a more or less haphazard manner. Later, in the developing of a really adequate program of safety, specific informational content is outlined and the classes are expected to achieve interest in and understanding of safety content at the class level. Objectives are analyzed, the program is definitely planned, and an attempt is made definitely to enlist the cooperation of all.

The next development in the expanding safety program usually takes the form of the organization of safety groups to insure a higher degree of participation on the part of an ever increasing number of individuals among the staff and students, both for the school as a whole and within the individual classrooms. At this stage safety councils, safety clubs, courts, safety research and reports appear.

Ultimately there comes a coordinated school-community approach to safety. The adults in the neighborhood, the community council, the police, the welfare agencies, all take active part in planning the program and they all participate to some degree in executing it. Responsibility is shared and the community becomes participant, cooperative, and coordinate. The students regard safety as a civic enterprise.

The foregoing is an attempt to simplify the typical development which has taken place in many localities. It represents an expanding program. At what level is your school?

Humane Education

Every child is endowed with qualities to motivate desirable behavior toward the life about him, to make effective his inherent desires for the well-being of the creatures in his environment, and to help him choose the ways of justice, mercy, truth, and kindness. Humane education is important in the school program; indeed it is mandated by law in Pennsylvania. It can serve to direct the potential forces of mind and body toward the realization of a better self. The study of the humanities affects thought and action to the improvement of the individual's behavior toward man and beast and to the improvement of character.

By responsible activity and understanding in the study of animal life, the individual may develop a noble philosophy of life in which the world of creatures provides a laboratory for classification, identification, and practical service in the care, protection, and conservation of all that is best in a living world. Ample opportunities to teach these facts and attitudes through precept and activity, have been provided in the various areas of this course of study, particularly in Chapter IV. It is the responsibility of the administrator to encourage this emphasis upon humane education.

Special School Days and Weeks

The administrator should take the lead in working out a plan with his teachers for the proper observance of special occasions that may or should be recognized in the schools because of their special relation to the curriculum, their value in training for good health, citizenship, and character. Such plans should be included in the yearly handbook. Except for Christmas Day and the Fourth of July, schools need not close for observance of these special days unless directed by action of the school board. (Section 1604 of the School Laws.) The complete list of Special School Days is given in the Appendix.

The School With a Year-Round Service

It is not revolutionary to suggest that school services be made available to the community for twelve months of the year. Each situation will make it necessary to vary the suggestions below from school district to district and from school to school. Rigid standardization is both unnecessary and undesirable for many reasons. It is usually not necessary or

desirable to have all the members of the faculty work all the time. Staggering schedules is often the best way to provide for a variety of community needs.

The factors involved would be necessary changes in and additions to teachers' contracts and salaries, the types of special abilities which the various teachers have, the financial ability of each district to carry additional services, the needs of the community and the plant facilities which would lend themselves to good community services.

Time and money are well spent for services in excess of actual teaching days. These may be days for a planned in-service training program, some time for such routine work as is necessary to a good system (pupil records, inventories, plans, etc.) and time for such services as day-camping, supervised summer playgrounds, clubs, hobby groups, library supervision, swimming, hiking, and the like.

Any plan for distribution of the teachers' time must be flexible, but the following suggested program may serve as a tentative and general guide:

1. Actual teaching (180 days) 36 weeks
2. Holidays

Days lost for quarantine and inclement weather	} 3 weeks
Visitation days		
Professional meetings		
3. Routine duties Case studies

Test scoring Diagnosis	}	... 2 weeks
Compiling records Reports		
4. Community and school service

(Individual choices, pay in excess of regular contract in relation to type chosen) ¹	}	... 6 weeks
Summer school teaching (local or college)		
Supervising recreation programs		
Curriculum committee work		
Professional study or workshops (local or college)		
Travel		
5. Summer vacation 5 weeks

Keeping Parents Informed

1. It is desirable for every school system to issue a handbook to parents giving general information about the schools. This may be in duplicated form or may be printed with duplicated inserts if the book is to serve for several years. Teachers should cooperate with the administrator in preparing information about the school which will prove helpful to parents as well as

¹For example, a person teaching in college summer school would not receive pay from two sources.

to the teachers. Such handbook may include statements on the following important items:

Vacation calendar	Out-of-school recreational services
Recess schedule	Grouping
Daily time schedule	Pupil placement policies (promotion)
Rules for absences and tardiness	Testing program
Traffic safety	Library
Cafeteria or lunch room	Home study
Bus schedules	Reports
Simple outlines of subject matter objectives	Detention of pupils
Health services	Conferences with parents
Playground rules	Parent-teacher groups
	Extracurricular organizations
	Others

- Greater cooperation between the home and school may be brought about by the issuance of bulletins for parents. Once or twice a year these may contain statements of policy, regulations, activities, and informative articles for the parents. They may be in the form of newsletters, newspapers, or pupils' letters to parents.
- School presentations help in establishing rap-

port with parents, especially when they display pupil initiative and show pupil contribution to the life of the school.

- Parents may be asked to help with school activities, to assist in a cafeteria or library, or to work on a policy or curriculum committee, for the valuable service they can give.
- Home visits by teachers should be encouraged. It should be pointed out, however, that there is administrative responsibility involved in training teachers in the proper techniques for such visitations. Home visits should never become synonymous with "trouble."
- Most important of all, nothing helps the school so much as happy and successful boys and girls. If the school is rich soil for growth, home and school relations will be pleasant. Sympathetic contact is the keystone of helpfulness and strengthens the relationships among pupils, parents, and the school.

FIRE DRILLS ARE REQUIRED MONTHLY

The laws of Pennsylvania require that all pupils and teachers be evacuated from the school building in a fire drill not less than once a month. Principals and teachers are responsible for the organization of effective fire drill procedures.

Below are suggestions which may be of assistance in making the drills effective.

The primary purpose of the school fire drill program is to teach safe and effective building evacuation. The customary drill in which participants leave the building by means of a set, unvarying route has limited value. It is recommended that each school organize a blocked exit or obstruction type of drill. During this drill, pupils who would ordinarily use one of these blocked exits will have to change their course and use a second or third choice exit.

For a drill of this kind a red object such as a flag or a block of wood is placed at an unannounced exit or stairway, indicating that the exit is cut off by fire and students must leave by another route. In a variation of this drill, hand signals are used to indicate changes of direction. Raising one hand indicates that the line should stop; raising both hands indicates the line should reverse direction. The

hand extended to the right or left side indicates the new direction the line will follow.

Some important suggestions applicable to either the regular or blocked fire drill are:

1. The fire gong should be used only for fire drill purposes and should be clearly distinguishable from other signalling devices used by the school.

2. When the signal sounds, pupils should immediately stop whatever they are engaged in and come to attention. The following procedure is suggested: The teacher shall at once take her place at the room exit and at her signal the pupils will march out of the room in regular order. Unless older boys are detailed to check cloakroom and classroom, the teacher will leave the room last, making certain that everyone is out. After the pupils are marched a safe distance from the building, roll should be called to check up on possible stragglers.

3. While it is desirable to evacuate the building quickly, excessive speed is not the aim of the fire drill. Prompt, orderly movement with perfect control is the aim.

4. There should be no talking in line as this tends to add to the possible confusion. A simple arm-in-

hand signal system should be employed for communication between leader and students.

5. The room nearest the stairways and exits should be evacuated first. Exit should be made by the shortest route with no crossing of lines.

6. The fire alarm apparatus should be tested by the engineer every morning before the opening of school.

7. Directions for fire drill procedure should be studied and should be posted in a conspicuous place in each room. Directions should state the route to be followed by the children leaving the building. It should be the duty of the principal to immediately instruct new teachers or substitute teachers on fire drill procedure.

8. Fire drills should be held at different times during the day in order that pupils may become familiar with all exits and understand procedures to be followed, no matter in what activity they are engaged.

9. It is important that all teachers, office staff, cafeteria workers, as well as pupils, leave the building during the drill. There should be no exceptions made to this rule at any time.

THE ELEMENTARY SCHOOL CURRICULUM AS AFFECTED BY THE SCHOOL PLANT

THE DEVELOPMENT, maintenance, and operation of a school plant which implements a good curriculum are essentially functions of administration. The administrator is in a position to study the over-all picture of educational needs in his district and can promote over-all planning in line with indicated needs. He should be the one with the specialized knowledge and training necessary to organize and lead his staff and community in planning plant development and in the functional operation of the physical properties of the district.

The school plant includes all buildings, grounds, approaches, service systems, equipment, furniture, and other items which constitute the physical environment of the school. The factors listed should be considered in the remodeling and reconditioning of existing plants as well as in the development and construction of new facilities. This statement carries special significance in view of the fact that there are many school systems where renovation and modernization of existing plants will be the only possible means of improving facilities for a number of years.

In listing the items deemed essential in the elementary school plant for the functioning of an effective curriculum, the following questions have served as guides:

1. Does the school plant fully provide for the safety, health, and general physical well-being of the pupils and all employees?
2. Does the school plant provide facilities in which an atmosphere can be maintained conducive to sound mental health, high morale, and a spirit of enthusiasm and cooperation on the part of the pupils and all employees?
3. Does the school plant adequately meet the needs of a forward-looking, efficient, and productive educational program?

These matters are basic and essential. They should not be regarded as luxuries, extras, or of secondary consideration. No educational program can be regarded as even moderately successful unless the elements indicated above are accepted as fundamental and treated in this light.

BUILDING

The general problems of building layout and design affect and implement the curriculum.

Classrooms

Classrooms in sufficient number for the needs of the attendance areas served should:

1. Be suited to the age level of the pupils as to heights and sizes of all fixtures and work areas.
2. Be suited to a flexible and adjustable program of learning activities as to furniture and floor arrangements.
3. Be planned for pupil groups not in excess of 25 or 30. (Index figures used in financial calculations should not be made the basis of determining actual class size.) Not less than 25 square feet of floor area per pupil is recommended. Modern curricular requirements have

demand a progressively increasing standard of floor space per pupil. This tendency, however, should not be carried to the extreme. It is not necessarily true that "the bigger, the better."

4. Be provided with floor space, built-in shelves, and storage space for both a work corner and a library corner.
5. Be planned as to wall area, providing recessed shelving, storage closets, and supply cupboards. Free-standing equipment such as radiators, cabinets, and bookcases should be kept to a minimum. With floor areas thus kept relatively free of obstruction, maximum use can be made of floor space. Room sizes can be planned accordingly. Recessed cloak-storage anterooms for classrooms permit protection and supervision which are desirable. They should be well ventilated, ample, but not over-sized, and should provide for the care of umbrellas, extra footwear, and wet clothing. Window seats or reading-corner seats and benches may often be provided, particularly in primary rooms. They can be made to serve a double purpose by providing storage facilities.
6. Be planned so that blackboard and bulletin board areas are balanced. The growing tendency to use less extensive blackboard areas and more extensive bulletin board areas should be noted in planning new buildings or in making alterations in existing structures.

Blackboard areas in the front of the room only, or in the front and along half of one side, are generally sufficient. Decreasing the area of blackboard space should not be construed as minimizing its value as a visual aid to teaching and to learning. Emphasis, however, should be placed on frequency and method of use rather than on extent of area.

Bulletin board areas should be readily accessible to the children. Cork-board installations above blackboards have little value, but patented cork-filled metal channels equipped with clips and hooks may be highly advantageous when placed on the upper side of the blackboard frame.

7. Be provided with the means for darkening, so that projectors of various types may be used. It is not wise to use permanent shades, dark on one or both sides, since these interfere with the regular lighting of the classroom. One classroom should never be made to serve the entire school since continual moving upsets the learn-

ing situation of that class. A properly equipped and ventilated special room may be made available for this purpose. Proper electrical outlets, as well as satisfactory window-darkening devices, are needed in all rooms to be used for this purpose. Refer to Chapter XI.

8. Be provided with lighting facilities which meet progressively modern standards to increase work and study efficiency, to conserve sight, and to promote a cheerful environment.

The two main factors which affect lighting are intensity and quality, and they should be well balanced through careful planning. Thirty foot candles of light at desk level is recommended. Quality of light, secured by even distribution and freedom from glare, should be sought through utilization of the best equipment developed by illuminating engineers. Full consideration should be given to various types of tubular lighting, including ceiling and wall fixtures, and recessed and molding type installations. Lights that operate on two circuits the length of the room are sometimes appropriate to permit the dark side to be lighted independently.

Emergency lighting equipment which meets legal requirements, should be provided in buildings which are used at night.

Light-colored and translucent shades should be pulled down and up from the middle of the window and should be kept in good repair. This gives still greater facility in adjusting the lighting to the pupils' needs. Venetian blinds or similar devices that reflect light are sometimes effective. The importance of lighting as a part of the health curriculum can scarcely be overemphasized.

9. Be painted and decorated to contribute to pupil and teacher morale and serve as examples in color, design, and lighting. Colors should be varied from room to room. Pastel shades are generally cheerful, pleasing to the eye, and well suited for light reflection and distribution. Somewhat deeper (but never dark and dreary) shades about doorways and for dados can add greatly to the attractiveness and cleanly appearance of walls.

Specialized Rooms

Specialized rooms for the proper implementation of all activities contributing to or affecting the curriculum should be provided.

1. One or more office rooms as centers of administration, for conference purposes, and for the storage of certain records and materials. Even one-room schools should have an adequate "office" corner.
2. One or more health rooms suited for the work of the doctor, dentist, nurse, or other agents of the health program to promote the program of healthful living for pupils and teachers.
3. Rest and toilet rooms for teachers of both sexes and for ill or injured pupils and suitable places for the administration of first aid. Even one-room schools should have first aid equipment, a folding cot, and screens.
4. Playrooms or a gymnasium for recreation and physical education activities, and for play and relaxation periods during inclement weather. Basement rooms, except when specifically designed for such use, are seldom appropriate for this use because of low ceilings, inadequate ventilation facilities, and dust-raising floors. Large regular classrooms equipped with movable furniture can readily serve as playrooms for their own groups.
5. A library room and a museum room, or a combination library-museum room with special emphasis on the storage and display of museum materials, visual aids, card catalogs, books, and reading tables, is desirable in large buildings. This room should, however, supplement rather than replace the classroom library.
6. An assembly room, auditorium or convertible classroom with adequate seating facilities for modern curricular and community activities. Extra folding chairs may serve if additional seating is needed, but folding chairs are not desirable.
7. Facilities for preparing and serving hot lunches for the nutritional and general health program. Even in those buildings where pupils generally go home for lunch, there should be sufficient provision for the needs of the few pupils and teachers who occasionally or regularly remain in the building during the lunch period. Such provisions can also serve school and community groups using the building during out-of-school hours.
8. A furnace room or boiler room, well insulated for heat and sound. Stoves in one-room schools should be shielded. In situations where one-room schools seem to be a necessary part of fairly permanent plans, oil burners are desirable. They free space and make for better

working conditions for both the teacher and the pupils. Automatic heat and ventilation controls are desirable if they are of the type whereby the heat and ventilation in each room can be automatically controlled. If automatic controls are not provided, there should be some means by which each room can control its own heat and ventilation.

9. Ample toilet room. Small toilet rooms, arranged in connection with classrooms or classroom suites, are preferable to large central toilet rooms, especially for children of primary age. Toilets should be well lighted and kept clean.

General Building Needs

1. Communication and signal systems, suited to the size and plan of the building, are important contributions to daily school life. They should be planned and installed to provide ready internal and external communication with consideration of safety and health factors as well as convenience. A fire alarm system should be installed to meet all legal standards and requirements. Inside bells or other signals should be as soft-toned in quality and intensity as possible.

Telephone service should be provided wherever practicable, including one-room schools, for use in cases of illness or accident and as a means of enlarging home-and-school relationships. Children and teachers should, however, formulate sensible regulations about the use of the telephone which are understood by the parents in order to avoid "nuisance" situations.

2. Certain general building conditions need careful planning in the interest of high educational objectives and standards. In all rooms, corridors, and stairways, attention should be given to acoustical and sound-proofing effects. Harsh echoes and reverberations can be avoided or overcome by the application of existing knowledge and the use of currently available materials. Shop, boiler, toilet, and playrooms should have special sound insulation treatment in order to avoid or eliminate annoyance and distraction in study areas.
3. Floor surfaces should be of substantial materials. Splintery woods should not be installed; and they should be replaced in existing structures. Floor surfaces should be smooth without being slippery. They should be treated with high-grade finishes and refinished or re-treated



Up-to-Date Tools Encourage Good Teaching

from time to time. Use of oil is not recommended. Overuse of wax is dangerous. Good floor installations are economical as well as educationally desirable.

4. Wall surfaces throughout the building should be sufficiently smooth for easy painting or washing. Rough-finished plaster is dirt-catching and difficult to paint or clean. Lower portions of toilet rooms, corridor and stairway walls are readily washable when made of brick, tile, or other hard surfaces. The combined benefits of light transmission, strength, durability, attractiveness, and ease of maintenance can be secured in many limited wall areas in corridors, toilet rooms, and stairways through the use of glass brick.
5. Entrances and halls are an expression of the school's philosophy and general status. They should be clean, well lighted, and attractive.
6. The air in toilet rooms, all specialized rooms, regular classrooms, and halls should be kept fresh. Rooms in which children work and play,

if not automatically ventilated, should have windows which open to cause a flow of air from top to bottom, with protection against direct drafts.

FURNITURE AND EQUIPMENT

Suitable furniture and equipment facilitate a good program.

Individual Classroom Needs

1. Classroom equipment should be purchased or repaired to give the best possible service within the means of the individual school district.
2. Pupil seating should consist of movable seats and desks, of correct sizes for individual children, and suited to individual or group work. A supply sufficient to insure selection of proper size for each pupil is preferable to adjustable furniture. A proper seat should be provided for every child every year, and sometimes changed

during the year. Surfaces should be free from glare and from defects and defacement. Noise-eliminating devices should be part of the equipment of each article.

Movable furniture offers numerous advantages. It permits a flexible program of activities through the grouping and regrouping of pupils as desired. Unobstructed floor areas can be obtained for games, instrumental and choral groups, dramatizations, rhythms, elementary industrial arts activities, or other activities requiring considerable space. This type of furniture eliminates most of the troublesome mechanical parts found in fastened-down types of pupil seating. Furthermore, the number can easily be increased or decreased as needs fluctuate. Movable seating eliminates the marking and marring of floors occasioned by attached equipment. It is also a convenience in sweeping, mopping or treating floors.

3. Each room should be adequately supplied with tables and extra chairs of proper sizes. Tables for library reading, museum and science displays, activities using elementary industrial arts materials, and art projects are important. Several sturdy tables of moderate size, approximately 2½ ft. by 4 ft., and one of larger size, approximately 3 ft. by 8 ft., are desirable. One table with a screw vise should be provided for tool work.
4. If fixed shelving is not sufficient for the placing of all books and reference materials not placed in pupils' desks, additional free-standing book-cases should be furnished.
5. Running water for drinking purposes, for cleaning, and for use in activities should be provided. It is preferable in each room. It should be at least near and in a convenient location.
6. The teacher should be supplied with a desk, filing equipment, a comfortable desk chair, and special storage equipment as needed.
7. Smaller items, such as wall maps, globes, clay storage crocks, and hand tools for construction projects, should be standard equipment in all classrooms.
8. In most rooms, easels can be used effectively.
9. Sand boxes, play equipment, and mats or rugs are essential for smaller children in modern curricular activities. Some replacements will be needed every year.
10. A flag, approximately 2 ft. by 3 ft., should be displayed in each classroom, preferably with a

staff anchored to a blackboard frame or in another suitable location in the front of the room. (This flag should be kept clean.)

11. Clocks should be provided for all classrooms.
12. Basic and supplementary books.
 - a. In selecting books, consider:
 - Quality of format
 - Quality and suitability of illustrations and graphic material
 - Bibliography and research supporting the work of the author
 - Provision of suggested experiences necessary to carry out requirements of curriculum
 - Helps for teachers (Teacher's copy or manual)
 - Suggestions for enriching learning, making adjustments to individual and group differences, worth-while activities and correlated reading
 - Organization with provision for skill maintenance, practice activities, diagnosis and reteaching
 - Vocabulary difficulty
 - Suitability of workbooks
 - Devices for pupil self-direction and self-evaluation
 - b. More than one level of a basic or supplementary textbook should be available for each group.
 - c. Continuity in the basal reading series is recommended in the early elementary groups.
 - d. Ample supplementary reference material and library reading material of diversified nature are necessary.
 - e. Ample texts and/or source material for various subject areas are necessary. See pages 113-115.

Needs Supplied on a Building or District Basis

1. Visual and auditory equipment in the form of projectors, radios, record players, disc or wire recorders, records, pianos, display units, films, slides, mounted pictures, some types of reference materials, and travelling items should generally be provided for the use of several or all classrooms. They should be readily obtainable from a convenient and suitable storage when needed. Routines for distribution should be understood by all teachers. See Chapter XI.

2. Equipment for specialized services should include properly selected furniture for a centrally located room. A duplicating machine, some filing cabinets, and a typewriter are essential, even in a small school.
3. Health rooms and rest rooms should be supplied with adequate equipment to serve their purposes effectively. First aid supplies should be immediately available for all pupils. Equipment for testing hearing and vision should be available, either by district ownership or by arranged loans.
4. There should be cooking and refrigerating facilities, ample storage facilities, and a sufficient supply of cooking utensils, cutlery, and kitchen equipment for the school lunch program. An abundant supply of hot water is necessary.
5. Equipment for games and other recreational activities should be supplied for the gymnasium or playrooms and for the outdoor play areas. This should include supplies as outlined in Chapter VI.
6. An electric kiln provided with a pyrometer promotes many desirable learning activities.
7. If there is a special library and museum room, it will need the specialized equipment which is designed for such purposes.
8. Chairs or fixed seating should be provided for the assembly room or auditorium.
9. Safety materials are needed. Certain definite articles are necessary for the use of school patrols. Warning signs and movable traffic directors are essential equipment for many schools. No school should be without fire extinguishers and other fire-fighting or fire-prevention equipment. This equipment should meet safety and insurance regulations and be regularly inspected and kept in perfect working order.

EXTERIOR FACILITIES

A maximum of safety, accessibility, and utility should be developed as a part of the health and safety curriculum.

Playgrounds

1. Good drainage is essential.

2. Protective fences or hedges are needed in some cases.
3. Areas should be designed and designated for varying age groups.
4. Some part, if not all, should be well drained and hard-surfaced for all-weather use. Some equipment should be fixed, such as swing stands, tunnels, jungle-gyms, mazes, walking-walls, and teeter bars.
5. Equipment such as nets, balls, and small game paraphernalia, should be provided for regularly in the annual budget.

Traffic Areas

1. Walks and crossings, loading and unloading areas, and approaches should be well marked and provided with safety devices as far as possible. Loading and unloading zones for school buses should be on the school grounds.
2. Bicycle racks should be provided and placed apart from play spaces and areas where other vehicles operate.
3. Car parking areas, where necessary, should be plainly marked for purposes of orderly parking and ready transit, and should be separated from play areas. Wherever possible pavement markings should be painted. When signs are used they should be clear and permanent.
4. Care should be taken to remove all possible risks from coal chutes, areaways, outside fire escapes, or other prevalent hazards.

Appearance of School Grounds

1. Landscaping and beautification of the grounds should be considered as having educative values. Major developments may be instituted by the school board and administrators, but pupils should have an increasing part in the establishment and maintenance of landscaping and garden projects.
2. Large trees should not be near enough to buildings to shut off light and sun.
3. An appropriate flag pole is an attractive external feature of every school plant, regardless of size.
4. Outside toilets should be screened and kept clean. The paths to them should be drained and surfaced. Lime should be provided and used regularly at least once a week.

PLANT OPERATION AND MAINTENANCE

Attitudes of thrift, carefulness, and pride can be fostered through planned pupil participation, pupil responsibility, and continual good example.

Standards of Operation and Maintenance

1. The fine educational results made possible with a well-developed school plant may be largely dissipated if the standards of operation and maintenance of the school plant are not maintained at a high level.
2. The terms "operation" and "maintenance" may conveniently be thought of in the sense in which they are described and used in the financial accounts and reports set up by the Pennsylvania Department of Public Instruction. Great care should be exercised by the administrator to develop good practices with regard to those matters which have bearing on the activities included under these terms.
3. Careful planning and supervision should be given the personnel and activities of the janitorial or custodial staff, which includes all persons whose duties deal with cleaning, repairing, or otherwise servicing the school plant.
4. Unrelenting effort should be put forth by administrators to inculcate a consciousness among teachers and pupils of the value and desirability of good schoolhouse care and of their share in a cooperative program of maintaining high standards. This is a part of the program for character and citizenship education.

Character and Personality Factors of Custodians

1. The custodian, by his personality and performance of duty, has a great effect for better or for worse on teacher and pupil morale.
2. The custodian may be, and often is, an important factor, favorable or unfavorable, in the public relations program.
3. The position of custodian or janitor deserves to be dignified by according this employe and his services the recognition he deserves in the school and in the community. His duties are not commonplace or unskilled. His responsibilities are not light. He should receive compensation

commensurate with the demands of his job. He should have regulated hours of work and vacation periods comparable with those of workmen elsewhere. He should be required to dress neatly in a garb suited to his duties and to maintain decorum toward pupils and teachers.

4. He should be selected on the basis of carefully considered qualifications as to age, physical fitness, personality, capabilities, and experience.
5. It is the administrator's duty to become well acquainted with good techniques of custodial practice and to provide progressive training for the custodial staff.

General Practices

Cleaning Practices Should Be Routine

1. Cleanliness should be consistent through routines, such as frequent and all-inclusive dusting, daily floor brushing, mopping, early disposal of waste paper, proper care, storage and collection of garbage and other waste items, and orderly arrangement of furniture and supplies. Teachers and pupils should share in this program.
2. Frequent and careful cleaning of drinking fountains, wash bowls, and toilets should be routine.
3. Lighting fixtures should be cleaned every six or eight weeks. Insufficient return is received on the investment in lighting fixtures and monthly light bills when failure to perform this important function results in marked loss of light.
4. Windows should be cleaned frequently to insure unobstructed light transmission and to increase room attractiveness.
5. Heavy floor oils or dressings which darken floors and become gummy with successive applications should be avoided. Wood fillers or dressings, light in color and body, should be used. Wood floors should be resanded regularly.
6. Walks and crossings should be cleared of snow and ice immediately after storms.
7. Protection should be taken against slippery surfaces outside and inside buildings.
8. Debris should be cleaned up immediately after heavy storms.
9. Lawns, hedges, and shrubbery should be neatly and regularly trimmed during the warm-

weather months, weeds eliminated, flowers and shrubbery cultivated.

Tools and Materials Should Be Properly Selected

1. Good results cannot be expected from the custodian's efforts if fuel, cleaning compounds, sweeping brushes, finishes and mechanic's tools of inferior grade are provided.
2. The custodial staff should participate in the selection of building and janitorial supplies.

Yearly Inventories Should Be Made

1. Thorough inspection of all school properties should be made in company with members of the custodial staff, shortly after the close of school. All items of school plant improvement needing attention should be listed. This list is a guide in planning and carrying forward an

active summer program of cleaning, renovation, and repair.

2. A long-term program of repair and replacement of items is of major importance. Such plans and schedules should be regarded as flexible, but should nonetheless be worked out and made a matter of record.
 - a. Obsolescent and worn-out furniture and equipment should be replaced according to a master plan.
 - b. A painting schedule should be prepared.
 - c. Roof and floor renewals and boiler replacements should be planned to avoid undue piling up of expenditures.
 - d. Playground development should be budgeted both for major new programs and regular maintenance items.

MEETING PUPIL NEEDS

THERE ARE several administrative aspects in the problem of meeting individual pupil needs. The policy of pupil assignment to grade groups, and grouping within groups is one aspect. Admission to school is another. Extending the curriculum is a third technique, and differentiation in curricular materials is a fourth.

Assignment of Pupils to Class Groups in the Light of Their Continuous Progress

In formulating the policy of pupil assignment, or placement, to be used in the advancement of pupils through the elementary schools, the basic consideration should be the maximum learning and growth of each child.

Assigning pupils to grades or teachers on the basis of subject matter achievement alone is not tenable in the light of what is now known about how children grow and develop. Neither is a policy of automatic "promotion" defensible, particularly when the supply of books, materials, and the grouping within groups are not consistent with the growth pattern. Both policies are wholly inadequate when the real needs of the child are brought into focus and made the basis for his advancement through the elementary school. The school must not be a mill that turns out only the finest ground flour. Neither can it be an assembly line for mass production of students. No child can be subjected to

repeated failure in terms of rigid grade standards without suffering personality damage and learning undesirable attitudes. Neither can one presume that all pupils have made satisfactory growth and progress by the mere fact that they have been exposed to six years of life in the elementary school.

The purpose of all instruction in the elementary school is the optimum growth of each child. All classification, grouping, and assignments to class groups must be considered in the light of this goal. Optimum pupil growth must be *continuous*—socially, emotionally, physically, and educationally. Optimum pupil growth is the reasonably successful attainment of goals in learning which can be achieved by the individual pupil. This growth requires differentiation in the rate of pupil attainment, the materials and techniques used, as well as in the goals to be attained. This is true for all levels of ability, for the gifted as well as the handicapped.

To provide for the continuous growth of children, the teacher must know each child thoroughly. She must know his rate and capacity for learning, his

motivating interests, his physical growth pattern, his social maturity, his record of achievement, the psychological impact of his group and family status, his health record, and his present level of attainment. Using these as the basis for planning the educational experiences each child needs, the teacher prepares her instructional program. The teacher must not assume that a child progresses by steps and that, if he has missed one step, he must go back and try it all over again. Rather, the teacher must look at the child's progress as if he were progressing on a plane inclined upward—a ramp. Each instructional period (year) must pick him up at the point at which he is and lead him on and upward at his rate of growth. This means that the teacher will not hesitate to give instruction on any level that best fits individual pupils or small groups within her class. It means that a room with materials of only one grade of difficulty is not acceptable. (Bulletin 233-A, p. 88.)

The name by which a group is designated is comparatively unimportant, whether it be grades, chronological age groups, or social maturity groups, so long as assignment to groups is based on the continuous growth philosophy. Normally, pupils do not "fail"; rather, some of them progress at a slower or faster rate than others. No pupil should spend more than eight years in the six-year elementary school. Such factors as irregular attendance, poor attitudes, lack of guidance, and failure to work at capacity may be reasons for assigning a child to the same group a second year. However, assignment must be based on careful consideration of all factors which will condition the pupil's attitudes and adjustment, and will thus promote or retard his growth. Physical development, chronological age, social and emotional maturity are all very important considerations in determining a pupil's assignment. Under those conditions, it is understood that a pupil may continue to work with the same group level at any point in the elementary school or he may be moved into a more advanced group. Whenever he is assigned, growth is the watchword and learning continues only from the place where he is.

It is recognized that state attendance forms, objective achievement tests, and other administrative and evaluation devices are usually organized in terms of grades or grade placement. Therefore, grade terminology will continue to be used, at least for the present, for the purpose of child accounting on the legally required records of the school, for the interpretation of test data, and for the general over-all planning of the course of study.

The continuous growth concept cannot be expected to operate successfully with conditions which now exist in all too many classrooms. If any significant improvement is to be realized in the attainment of pupils, the size of the class must be controlled. In classes of more than thirty, it is impossible to give significant attention to the mental, social, and emotional needs of individual children. Early elementary groups profit from being limited to twenty-five pupils or less.

Increased guidance is required for the successful operation of continuous progress. The child's guidance always remains the responsibility of the classroom teacher. Trained personnel should be available to help teachers understand and determine the needs of children in terms of the child's whole development. Psychological and psychiatric service should be available for this purpose. Teachers must be helped to approach child problems from a guidance standpoint. They need to be taught how to interpret health and test data, and how to plan in relation to such data.

The education of children is a joint concern of the school and the parents. Thus effective guidance requires that parents be brought into a proper and effective relationship with the school program. Parents need to understand the educational objectives to be achieved. This implies a program of parent education that will help parents to assume intelligently their proper responsibility in the task of educating their children.

The responsibility for initiating and coordinating this program belongs to the administrator. After certain over-all planning has been carried out by the school personnel, teachers become key people in carrying out such a program of parent education. No teacher can do this effectively, however, when she is responsible for contacts with too many children.

Admission to First Year in the Primary Division

Suggestions for Schools with Kindergartens

1. An effort should be made to get all children of proper age into kindergarten.
2. Provision for medical and dental examinations should be made in a pre-kindergarten clinic or early in the school year.
3. Careful observation of the child should be made by the kindergarten teacher. She should make written records of physical maturation, physical defects, deficiencies, and maladjust-

ments; social maturity and behavior characteristics; emotional maturity and patterns of emotional expression and mental maturity.

4. Upon recommendation of the teacher, principal, nurse or psychologist, necessary examination and testing should be done. (Use of individual psychological tests and a social maturity test to determine social level will be most helpful at this point.)
5. Appropriate follow-up work should be carried out to fit the child for entrance into the first year of the Primary Division.
6. Pupils may be retained in kindergarten if they do not have sufficient maturity (physical, social, mental, and emotional) to be reasonably successful and adjusted in the first grade. (State Council of Education regulations concerning the postponement of admission of pupils are available from the Division of Special Education, Department of Public Instruction.)
7. The first-year curriculum should be adjusted to provide for the needs of children with mental ages between five and six years of age.

Suggestions for Schools without Kindergartens

1. Preschool clinic as given in Bulletin 233-A on pp. 94-95.
2. Where a preschool clinic is not possible—refer to p. 95 of Bulletin 233-A.

Extension of the Curriculum

As conceived by the founders of our nation, the purpose of public education was to provide an enlightened and intelligent citizenry so that our nation might be strong in its love of democracy and freedom. The challenge of this age is the challenge of ideologies. The strength of the nation to meet this challenge is the sum total of the strength of its communities, its schools, and its homes. The investment of public money must return rich dividends in the form of intelligent and capable citizenship.

The developing curriculum is being projected more and more on a plane of practical and realistic education. This concept of education has had a gradual growth over a period of years and has come to be accepted as the desirable type of school and community program. Such a program seeks to make learning real and functional to boys and girls by utilizing their interests and abilities as starting points in carrying out planned educational experiences designed to meet the present and the anticipated future needs of individuals and groups.

Over and beyond the development and maintenance of such basic skills as reading and the use of numbers, the developing school program emphasizes problem-solving, with much importance given to the solution of everyday problems in social living, such as how to bring about group action, how to get along with others, how to use one's leisure hours. The basic skills become the tools for solving problems and the school-community becomes the laboratory in which the pupils work. Such a program is predicated on the fact that life to any individual is a series of problems to be solved and that the degree of success in living is the degree of success in satisfactorily solving one's problems.

The first step in projecting a modern program of practical and realistic education is to extend it to provide new kinds of educational experiences for those already within the school. The second step is to make possible additional educational opportunities outside the school, to provide services for those who are not yet in school, and for those who have left school. Whether or not this second step is taken, is dependent on the answer to the question, "What is the role of the school in meeting the needs of individuals and groups, in and out of school, in your community?"

Some Possibilities for Enriched Living of School-Age Groups

The school environment should be rich in materials, objects, projects, situations, experiences, and personalities so that every child is stimulated and challenged to do things for the thrill of doing, creating, and experiencing. Being in school should be a high adventure in living—so interesting and so satisfying that no child would want to miss it. Great latitude is required since children have such varied interests and needs. Attempts to stereotype the experiences children should have are completely out of line with the purpose of such a program. The right of the individual to grow and develop as an individual and to follow his own peculiar interests in a way which satisfies his needs—as long as he does not infringe on the rights of others—is as basic a principle in school living as it is in American democracy. It is normal and desirable for children to be different. It is abnormal and undesirable for children to be too much alike. The school program must also be set up to include certain experiences outside school hours to complement experiences which may be provided by certain community groups, and to balance certain individual activities engaged in by the child. Such items as the follow-

ing should be given careful consideration, for they are types of experiences children will need.

1. Library and leisure reading
2. Hobbies and crafts
3. Recreation and athletics
4. Clubs and organizations
5. Outdoor activities and camping. (By the same principle, rural children would profit from experiences in urban centers)

Consideration of these items will suggest many things which could be done and many adaptations of the school program which will serve the better to meet the needs of children. The school should know the possibilities for children getting such experiences outside the school program. Definite attempts should be made to interest and guide pupils into such activities. For example, the librarian of the public library might be invited to tell of the books available for summer reading and to help pupils fill out library membership cards. The school can make tickets available to children's concerts or theater programs. Boy Scout and Girl Scout leaders and 4-H Club leaders may be invited to interest pupils in their programs. A Saturday morning sports period might be organized and sponsored by some adult group at the suggestion and with the backing of the school. Carefully controlled work experiences, to teach the value and dignity of work, are a possibility. Hobby groups and activities, such as kite clubs, doll shows, marble tournaments, pet shows, and talent programs, provide rich experiences for children. The opportunities and possibilities are numerous.

Every administrator should consider the possibilities of his community with his teachers and his community leaders. The Division of Extension Education, Department of Public Instruction, should be consulted since funds are available for carrying out many types of projects. These activities will give children opportunities for:

1. Learning and using techniques for recognizing, analyzing, and solving personal and group problems
2. Practicing intelligent leadership and responsible and cooperative "followership"
3. Learning and using techniques of cooperative planning
4. Making decisions and accepting responsibility for actions taken
5. Participating in group self-government
6. Formulating and practicing good work habits and skills

7. Setting up standards of values and judgment and choosing courses of action in the light of those accepted standards
8. Practicing democratic relationships between groups and individuals of different social, economic, religious, and racial background
9. Participating in work and service activities of benefit to the group, school, and community

Some Possibilities for Preschool Children

Preschool children certainly have a claim on the services of a truly good elementary school program. These claims will benefit both the child and the school directly. In providing for the needs of preschool children, the following should be considered:

1. Provision of health and clinic services in the form of a spring or summer round-up of children to enter school for the first time. Perhaps if interest and need should warrant, this service could be extended to younger children as well. Members of the medical and dental professions are usually quite generous in devoting time to such projects as these, and school and public health nurses can be called upon for advice and assistance. (Check with the School Division of the Department of Health concerning possible arrangements for a complete medical examination.)
2. Adult education as to the needs and growth of young children. The school should take the lead in forming a group, council, or association of the parents of young children with the idea of helping them with their problems through meetings, discussions, speakers, and literature. Much may also be done through casual and personal contacts with parents and through such organized groups as the PTA, the Home and School Association, and the child-study groups of women's clubs.
3. Provision of kindergarten education. If the school cannot financially support a kindergarten program within the limits of its present budget, there are two alternatives that should be considered. The first is to enlist interest and support in raising the tax rate to provide this service. The second alternative is to enlist financial support by some civic groups or certain financial and business interests. If a safe and healthy kindergarten cannot be equipped and staffed with reasonable adequacy, it should not be undertaken. In rural areas there are definite limitations to a kindergarten program. Certainly children of this age should not be trans-

ported long distances or kept at school all day. Itinerant teachers, morning and afternoon sessions, and such other arrangements may be solutions to this problem.

Some Possibilities for Adult Groups

The adults of a community have needs which are frequently well served by the elementary school, especially if the elementary unit is the only school in the local area. The extent to which such a program should operate will be determined by the need for it and the enthusiasm and support that can be generated to back it. Good organization will need to be applied more closely here than to any other part of the program of extended educational opportunities. For this group, the school administrator must give considerable attention to:

Recreation and entertainment

Discussion and study groups, and other educational activities of a practical nature

Shop and hobby groups

Study and solution of group and community problems

Extending services which the regular school program can offer

Many communities have found the need for more than one type of program for the adults of the community. Many school-community programs have been extended to include cooperatively operated service projects, such as canneries, credit unions, and repair shops. In areas where consolidation has caused the vacating of home economics and shop rooms, these could be equipped and made available for such undertakings.

Some Basic Considerations for Administrators

If it is recognized that the school has a definite responsibility in helping meet the needs of individuals and of community life, the following should be given consideration.

1. The extension of educational opportunity will not necessarily follow an orderly pattern of assigned hours in a regular schedule. A lengthened school day, week, and year may be necessary. The provision of suitable and desirable activities may require time of school personnel before or after regular school hours, evening hours, Saturdays, Sundays, holidays, and summer vacation periods. Staggering of schedules both daily and monthly, is a procedure which works successfully in many situations.
2. The school must keep itself free from any political, religious, or racial affiliation or exploita-

tion. It must be entirely impartial in its relationships with community groups and extend the same opportunities and services to all.

3. The school should assume leadership in any program of extended educational opportunities and should seek to develop any capacity for leadership on the part of individuals and groups in the community. Beyond this point the school should serve as an initiating and coordinating agency when dealing with out-of-school groups.
4. The extension of a program of educational opportunities should be determined in the light of what needs to be done, what the limitations are which will affect the desired result, how and to what extent these limitations can be overcome, and what can be done in spite of the limitations which exist.
5. Any attitude of dictation on the part of the school or any seeking to impose a program will be resented and viewed with suspicion by out-of-school groups. Rather, plans should meet needs which community groups recognize. The leadership provided by the school must be a wise combination of tact, patience, democratic procedure, and cooperation, motivated by a real desire to accomplish something worth while and beneficial. The school administrator can talk, enlist interest, seek out support, find leadership, initiate, and coordinate plans. He can be so interested in his school community that he is accorded respect and support.
6. Certain factors will influence negatively any program of extended educational opportunities. These are usually factors such as lack of understanding and apathy on the part of parents and the public. Effective planning and information will forestall these to a great extent. Much effort must be given to good school-community relations. Step by step development of a program, with each step based on practical values, and re-enforced by success in preceding steps, will allay fears and suspicions and will generate support and enthusiasm.
7. Securing personnel capable of carrying out the activities of an extended school day and year may be quite difficult. Qualified people may be hard to find and even harder to keep. Certainly salary and working conditions must be favorable. Teacher-training groups should give considerable attention to preparing prospective teachers to participate in this type of an educational program. The potential leaders of the

school-community should be drawn into the program to make it operative in the best possible way.

8. School buildings, equipment, and facilities should be made available.

Instructional Materials

The school time of each pupil has great potential value—not only to the pupil himself but also to society. It is during the time when the pupil is under the influence of the school that he must be guided into experiences, learnings, understandings, and attitudes which will help him to be a happy, well-adjusted, and reasonably successful learner as well as a competent member of his group. Thus it is imperative that the pupil's time be used wisely and well. He must achieve, to the greatest possible degree, the objectives of the curriculum. Instructional aids enter into curriculum planning at precisely this point. Good use of the right kind of aids makes efficient learning possible and practical.

The use of words as a medium of teaching is efficient only if the words adequately communicate to the learners the ideas to be gained. Verbalism results when words are used without adequate understanding of their meaning. The use of a variety of teaching aids gives pupils a measure of protection from verbalism and helps the teacher to build up the pupil's level of understanding to the point that meaning is associated with the verbal presentation of material.

The Administrator's Responsibility

1. Encourage as adequate a budgetary allotment for necessary replacement of instructional aids and the addition of new ones as is possible in the existing financial picture.
2. Formulate a plan whereby the most essential and most desirable materials are secured first.
3. See that the materials to be secured fit the objectives of the curriculum, the organization of the curriculum, the needs of the pupils in the several learning areas, and are adaptable to the needs of the local situation.

4. Provide for teacher participation in determining what materials will meet their classroom needs best. Books and materials must not only fit the pupils, they also must fit the teacher.
5. Help teachers plan for the use of materials and help with their actual use until teachers are thoroughly familiar with them.
6. Make the use of all materials as convenient and simple as possible.

Criteria for Selecting and

Using Instructional Aids

1. Selection of materials: Material should be bought according to a plan and evaluated by these criteria or others developed by a local committee or staff.
 - a. Material should be of authentic value for the things to be learned.
 - b. Material should present clearly and accurately the subject matter involved.
 - c. The materials should fit the learning level of the groups and individuals who will use them.
 - d. The materials should provide as much pupil interest and motivation as possible.
 - e. Materials should, if possible, give more than one kind of contact with the things to be learned.
2. Use of materials: Aids have no value in and of themselves. Their value lies in their effective use.
 - a. Materials should be fitted into the continuity of what is being learned.
 - b. The method of presentation should stimulate interest and motivate the pupil in the things to be learned.
 - c. The methods involved should contribute to learning how to work efficiently.
3. Other necessary educational materials should be supplied (and short workshops organized wherever necessary so that teachers may learn how to use them effectively and efficiently). See Index.

EVALUATING, REPORTING, AND RECORDING PUPIL PROGRESS



Report Card Time Can Be a Happy Time

Reports to Parents and Pupils

Nothing reflects the educational philosophy of the school more vividly than the type of report issued to parents and pupils. It should be emphasized that the right kind of report is one of the primary factors in establishing desirable public relations between the school and the community. Reports that are candid in telling a whole and true story of pupil growth and development go far in

establishing desirable teacher-pupil-parent relationships.

If the continuous-growth concept is the desired goal, a report must be based on more standards of evaluation than academic progress alone. Academic achievement is only one part of the pupil's total growth. (See Bulletin 233-A, pp. 96-97.)

The formal report card is not the sole method by which teachers report to parents. There are written messages and oral communications. Some schools have replaced the conventional report card by a personal note from teacher to parent. Reports of this nature include the teacher's analysis of the child's progress in the educational experiences that the school provides for the child, the evidence supporting the teacher's analysis, and the plans for the child's further development. Other schools supplement the report card by a personal letter sent by the teacher.

Regardless of the method of reporting pupil progress, a report should have the following characteristics:

1. The report should be so constructed that it will be meaningful to teachers, pupils, and parents.
2. It should contribute to desirable public relations by avoiding antagonism, resentment, or other negative attitudes toward the teacher or the school, but should give an honest picture to the parent.
3. The report should emphasize the child's strength rather than his points of weakness and his failures alone. When a pupil's difficulty or need is reported, suggestions should be made for overcoming the difficulty.
4. It should stimulate a desire on the part of parent and pupil to overcome weaknesses.
5. It should reflect the educational objectives of the school.
6. It should tell the parent how his child is growing in terms of his ability to achieve as well as general achievement in comparison with general expectations of his whole age group. Obviously, the five-letter report card evaluates only a child's achievement as compared with the achievement of others in his own immediate class group.

7. It should report standard achievement test scores, thereby showing the child's achievement in relation to average achievement of a large widely distributed group of children of his approximate age.
8. It should report progress in terms of the development of the whole child rather than in terms of growth in subject matter fields only. Progress in the development of social qualities, of emotional maturity, of physical characteristics, and of desirable work habits should also be included.
9. It should provide for comments by both teachers and parents.
10. It should give attendance data.
11. It should make provisions for conferences desired by the teacher or the parent.

Developing a Report Card

It is obvious that all schools wishing to report pupil progress by means of a report card, will not find it desirable to adopt the same form of card. A report card should evolve as a result of cooperative effort on the part of all concerned. If the continuous-growth concept is the desired goal of a school or a school system, administrators and teachers will find it worth while to spend much time in developing a report which reflects this philosophy. This cannot be done over night, but may require a period of several years. By enlisting the interest of all groups—teachers, parents, the school board—much good can be accomplished in directing the basic thinking of all concerned toward the improvement of the whole school program.

One suggested procedure to develop a report card may be:

1. Select a committee consisting of members from the professional staff to draw up a suggested report card.
2. Submit the suggested card in duplicated form to various groups for discussion.
3. Further revise the card in the light of suggested ideas.
4. Place the card in use in the school for a trial period of a year. The card may appear in mimeographed or duplicated form for economy, since it may need further revision.
5. Invite further discussion of the card by various groups, such as the parent-teacher association, the school board, and the teachers. A talk on the revision of the report card may be of interest

to service clubs and other community organizations.

6. Further revision by the committee, further trial periods, and further discussions, if necessary, should be continued until the report card is ready to be adopted as the official report for the school or for the school system.

Another suggested procedure, which would require a number of well-planned committee meetings spread out over a period of a year or two, is:

1. Invite the educational chairmen of local organizations and elected representatives of the PTA, representation from the school board, and teachers (all preferably, or a representative committee) to compile with the administrator a random listing in answer to such questions as:
 - “What are the things you as parents want to have the schools report to you?”
 - “What are the things which the teachers want to report to the parents?”
 - “What are the important behaviors and skills in a democracy?”
2. With the participation of the group, classify the random listings, and see what the general headings and sub-topics look like.
3. Take one general heading at a time, discuss it, and add, take away, or revise statements. Discuss thoroughly the measuring devices that can be used, how to evaluate ideas under each general heading, and how to report such evaluation to the parent.
4. Appoint a small committee to assemble one or two possible report cards.
5. Discuss these and revise.
6. Use on an experimental basis for a year or two.
7. Continue revision.

Frequency of Reporting

No general agreement exists in regards to the frequency of issue of the formal report. The tendency, however, is to limit the number of such reports to four or less during the school year. It is important to remember that there are other means of reporting in addition to the formal report. Parents expect and are entitled to special reports and interviews when exceptional abilities or special weaknesses occur.

It is suggested that teachers be furnished with bound pads of note paper and carbon paper for making special reports so that a carbon copy may be kept by the teacher as a record.

Illustrations of Reports in Letter Form

These may serve as the sole method of reporting pupil progress or they may be supplementary to the formal report card. Note that the illustrations of letters given below are consistent, in general, with the criteria and policies as advocated in this bulletin. They tell, for the most part, what is right with the child, and still give an honest picture of the child's progress.

Dear Mr. and Mrs. _____:

Dolores has made unusually fine progress in reading, both oral and silent, and I wish to commend her.

In arithmetic and spelling, however, Dolores is not up to general expectations for her age group. I feel sure that if Dolores will apply herself to this work as well as she does to reading, her work will soon improve. I am hoping that she will, because she is to continue with her class to the next year in the intermediate division. Dolores will want to improve next term and so make rapid growth in these subjects.

The enclosed graph gives a picture of her achievement according to standardized test scores. Reports on spelling and music are also attached. If you have any questions I'll be very glad to go over them with you at any time.

Sincerely yours,

(Teacher)

Enclosure—graph

Dear Mr. and Mrs. _____:

This is a picture of Lois Ann's progress in school.

Lois Ann is an excellent reader. She reads orally with good expression and smoothly. She solves any vocabulary difficulty by using her phonetic knowledge and other ways of analyzing new words. She has read six reading books of varying length and difficulty. Her comprehension of oral or silent material is very good.

Lois Ann has continued to make excellent progress in spelling.

Her daily number work has been quite satisfactory. She has mastered her number combinations involving sums to six. These she has applied in solving problems.

Lois Ann is a dependable child; neat and tidy about her work, which is always completed on time. She is cooperative. She takes an interest in the class activities.

Most sincerely yours,

(Teacher)

Number of days absent:

Number of times tardy:

Dear Mr. and Mrs. _____:

This is the final report on Allen's work for this school year. The chart showing his school achievement for this year has been completed. You may compare the figures for the beginning of the year with those at the end to determine what progress he has made since his entrance into second grade.

I regret very much that Allen has been quarantined for such a great part of the past two months. As you probably realize, this brings his absence for this year to a total

¹Additional illustrations are given in the appendix.

of eleven weeks, which of course is a great handicap for him. His reading has apparently suffered the most from his absence. Neither his reading speed nor reading comprehension has increased as it should have and his reading is decidedly below the class average. I have been very much pleased with his progress in spelling and number work. His test results were very good in spite of his absence.

I want to take this opportunity to thank you for the interest and cooperation you have shown all year. In view of the fact that in some respects Allen's work is equal to the general expectations of his age group, I am recommending that he continue with his group. I am hoping that he will do his best next year to make up for this year's loss. With some extra help I feel that he should be able to do the work of the third year of the Primary Division.

Sincerely yours,

(Teacher)

Enclosure—graph

Illustration of Formal Report Card¹

The report card illustrated on pages 98-103 of Bulletin 233-A can serve as a help for report card development in a school or school system. It should not be adopted without revision to meet local needs and desires. It would obviously not be good curriculum practice to purchase a "stock" report card. If a school or school district feels that it is too small to develop its own report card, the County Superintendent of Schools may be requested to develop a report card on a county-wide basis.

The report card illustrated in Bulletin 233-A has undergone two revisions on a county-wide basis since the bulletin was published.

The illustration of a report card which follows has four pages and can be printed on a typical 4½" x 8½" folded card. It is a combination of ideas gathered from numerous report cards submitted from various parts of the State. Each section of the following illustrative report card has been discussed. More details below. Teacher study groups should refer to these. This report card should not be adopted without local study and adaptation.

EXPLANATION OF NOTES IN REFERENCE TO THE ILLUSTRATIVE REPORT CARD SHOWN

Formal reports issued about four times a year will be satisfactory if supplementary reports are issued when special needs occur. Some schools prefer to separate the Language Arts section into subheads of reading, English, writing, and spelling. This idea may be preferred by parents; however, many of these abilities are common to all and the card may be set up as illustrated.

Some schools have used R—Rapid Progress, N—Normal Progress, I—Improvement needed. Others have used O—Outstanding, S—Satisfactory, I—Improvement needed, U—Unsatisfactory.

It should be pointed out that a symbol such as "O—Outstanding" may have a greater tendency to stimulate undue competition on the part of parents and pupils than a symbol

(continued, top of col. 1, p. 36)

(First Page)

REPORT TO PARENTS

Elementary Grades

Public Schools
Pennsylvania

Pupil
Year and Division in School
Teacher
Building For the Year 19 -19

To the Parent:

The function of the school is to promote child growth (social, mental, physical, emotional) in desirable ways. The type of marking system used in this card places the emphasis on the child's growth in terms of his ability to achieve rather than in terms of achievement in comparison with other members of the immediate group. Letters—A, B, C, D, E—are not used because such a marking system too often overstimulates competition among some children and creates undesirable attitudes on the part of others.

THE CYCLE PLAN OF PROMOTION

Continuous progress throughout the primary division (first three years) and the intermediate division (second three years) is the desired goal. The child begins the new school year at the level already achieved. Annual promotions are not used. The formal end-of-year promotion periods come at the close of the primary division and at the close of the intermediate division. The child may be required to spend four years in a division if his growth is not adequate, whenever that seems the better thing to do.

This report is issued at nine-week intervals. Please discuss it with your child, sign, make any comments you like, and return promptly. Additional communications will be sent to you when exceptional abilities or special weaknesses occur.

(Second Page)

EXPLANATION OF MARKS:

- S —Indicates Strength.—Skill or trait well developed for the age of child.
- N —Indicates Normal Development.
- W —Indicates Weakness.—Need for special attention, in the school or home.
- I —Indicates Improving.—(Used only after a "W" has been received in the school or home.)

(Items not marked do not apply to the division in which your child is enrolled.)

PROGRESS IN SCHOOL SUBJECTS

LANGUAGE ARTS
(READING, ENGLISH, WRITING, SPELLING)

Achievement Levels in Reading (Check (✓) marks used only)

Report Period				Report Period			
1	2	3	4	1	2	3	4
Pre-reading.				3rd Reader.			
Pre-primer..				4th Reader..			
Primer.....				5th Reader..			
1st Reader..				6th Reader..			
2nd Reader.				Above 6th..			

Report Period

	1	2	3	4
Shows interest and enjoyment in books and reading.....				
Understands and interprets what he reads...				
Works out new words for himself.....				
Reads with satisfactory speed.....				
Can locate information independently.....				
Expresses meanings clearly and fluently.....				
Speaks distinctly and correctly.....				
Is able to secure and hold interest of hearers.				
Expresses ideas clearly and correctly in writing.....				
Can spell words needed in written work.....				
Writes neatly and legibly.....				

THE SOCIAL LIVING AREA

Works well with other children in unit activities—planning, executing, evaluating.....				
Resourceful in the use of materials—globes, maps, dictionary, and other reference materials, and elementary industrial arts materials.....				
Collects and brings in helpful materials.....				
Shows an understanding and appreciation of: Health—rules for healthful living.....				
Geography—how people live and work in our own and other areas of the earth.....				
History—the American heritage.....				
Science—happenings in the natural world.				

ARITHMETIC

Knows the number facts expected of him....				
Can solve thought problems.....				

MUSIC

Enjoys music and singing with the group....				
Sings to pitch.....				
Ability to interpret rhythm.....				

ART

Shows originality in expressing ideas.....				
Appreciates art in everyday life.....				
Is able to use appropriate materials effectively.....				

STANDARD ACHIEVEMENT TEST RESULTS

Grade Status Scores

Name of Test	Date Administered	Read.	Lang.	Arith.		Total

Explanation:
Grade Status score of 2.1, for example, indicates the child did as well as the average child in the second year and first month of school.

(Third Page)

PROGRESS IN CITIZENSHIP AND
PERSONALITY DEVELOPMENT

	Report Period			
SOCIAL	1	2	3	4
Is courteous and considerate.....				
Cares for personal and school property				
Accepts group responsibility (leadership)				
Respects school regulations				
Works well with others.....				

EMOTIONAL				
Accepts criticism and profits by it.....				
Has self-confidence.....				
Has self-control —not easily upset.....				

WORK HABITS				
Starts and completes work on time.....				
Puts forth best efforts.....				
Works neatly.....				
Follows directions well.....				
Works independently.....				

HEALTH HABITS				
Is neat and clean in body and clothing.....				
Sits, stands, and walks correctly (posture).....				
Reflects good sleep and rest habits.....				
Evidences proper diet.....				
Takes part readily in play activities.....				

PARTICIPATION

Takes part readily in club and assembly activities.....
Has a healthy interest in hobbies.....

Report Period			
1	2	3	4

TOTAL RATING OF CHILD'S
PROGRESS

Has shown splendid growth.....
Has shown normal growth.....
Has not shown sufficient growth to warrant continuance with the same group, unless much improvement is made.....

ATTENDANCE AND HEALTH

Days absent.....
Times tardy.....

(Fourth Page)

	Report Period			
	1	2	3	4
Conference with Parent desired by Teacher..				
Conference with Teacher desired by Parent..				

SIGNATURES AND COMMENTS

[Original Report allows space here for four Report Periods]

First Report Period:

Parent's Signature.....
Parent's Comments.....
.....
Teacher's Comments.....
.....
.....

STATEMENT OF ASSIGNMENT

In view of the record of progress shown.....
..... is assigned to the..... year
in the..... division beginning the next school term.
Teacher..... Date.....

(from page 33)

such as "R—Rapid Progress" or "S—Strength." Caution should be used in selecting "F—Failure" as a symbol since a child actually does not "fail"; his *progress* may be unsatisfactory or weak.

It is recommended that standard achievement test scores be given for the skill subjects only. The format should be arranged to coincide with the particular tests used. Some of the recent standardized achievement tests provide for a grade equivalent in language arts instead of the separate scores in reading, English, and spelling.

Some schools prefer to give separate marks in geography, history, science and health. Each district must decide for itself how the report should be arranged.

Permanent Records

Cumulative records kept in the school are of utmost importance in promoting the child's development. These records should be of the same nature and purpose as those case records kept by progressive physicians. They should be readily accessible to all members of the professional staff and, for the most part, should be confidential. They should be permanent and should be passed along with the child as he is promoted from the elementary to the secondary school. When the child moves from the district, these records should be mailed to his new school. If none are received, teacher or administrator should write to the school from which a pupil is received and ask for permanent records.

Records may be elaborate or simple. The forms may be purchased commercially or they may be homemade. They should be as simple as possible but should be adequate as to essential information. Unnecessary duplication of records and items within records should be avoided.

Adequate records will consist of:

1. The approved dental and medical forms. (See Appendix)
2. Family information, *additional to that on above forms*.
 - (a) Address and telephone.
 - (b) Date entering and date leaving, with forwarding address.
 - (c) First names and nationality of both parents, check for living or dead.
 - (d) Occupations of father and mother, or both, and firms' names and addresses with telephone numbers. These are needed particularly for emergencies.
 - (e) Some pertinent data concerning home conditions.
 - (f) Language spoken in home.
 - (g) Names of other children in family and ages.
 - (h) If parents are separated—date, with needed information as to child's residence.
 - (i) Place for photograph of child.

[If the medical forms are kept in a room apart from the school office, the following additional information should be listed on the office records:]

- (j) Full name of child.

¹ An illustration of a permanent record form is included in the Appendix.

(k) Sex and color.

(l) Birth date. (Check for authority of birth certification.)

(m) Place of birth.

3. Subject matter achievement record. This may be devised to coincide with the type of report card issued.

4. School placement record by years of levels and names of teachers.

5. Attendance data.

6. Personality adjustment record:

Physical Disabilities	Important activities in
Health	and out of school
Mental health	Summer experiences
Personality	School citizenship
Social adjustment	Suggestions concerning
Notable accomplishments	teaching methods
	Remarks of teachers
	Others

7. Standard Test Record:

Name of test	Chronological age
Form used	Percentile rank
Date administered	Mental age
School year or level administered	Grade equivalent
Score	Other variable data
Standard score or median	

8. Cumulative folder. Letter size, 9½" x 11½", is suggested. In this folder are kept letters, case histories, anecdotal records, records of home visits or parents' conferences, specimens of the child's work and teachers' notes. Standard tests need not be recorded if the record pages of the tests are filled in with all data and kept in the folder. All the record forms, except the approved dental and medical forms, may be combined into one form and printed on the inside of the cumulative folder. If the folder is approximately 11½" x 18", it will provide ample space. However, if separate record cards are kept apart from the cumulative folder, all essential test data should be recorded on the card.¹

Using Records

Cumulative records have very little value unless they are made available to the teacher and unless the teacher is willing to take time to study them. It is the duty of the administrator to encourage each teacher to study the records of each child under her care. By so doing, the teacher will be better able to chart the needs of her pupils and to strengthen the areas of work in her program; all pupils may benefit from her guidance. It might be desirable to carry the cumulative folders or record cards to each teacher at the beginning of the term, and ask her to study them for a specified period of time. Sometimes faculty meetings of teachers in the school building are devoted to the proper use of records. See Bulletin 233-A, pp. 20-25, "Studying and Recording Individual Needs."

During each term each classroom teacher should be responsible for recording all information called for in the record system. The administrator is responsible for developing with his teachers a system whereby it is certain that records are kept and used.

ADMINISTRATIVE RESPONSIBILITIES IN THE SMALL ELEMENTARY SCHOOL

Many small schools, by choice or necessity, will continue to exist for many years to come. In some instances the small school must be retained as the logical educational facility for isolated or sparsely settled areas. In others, unfavorable construction conditions, inadequate financial resources, or the time-consuming processes of consolidation will keep many small schools in operation.

The foregoing items listed as essentials of the school plant should be made applicable to the small school in so far as possible, as well as to those of larger size. Buildings of one, two, or three rooms, as well as those of larger capacity, should be provided with the fundamental necessities with regard to safety, health, and teaching efficiency. Adequate lighting, heating, and ventilating equipment should be installed. Running water and inside toilets, rooms for proper operation of the various health activities, playroom and playground areas should be provided for small schools, as well as for large schools. Wherever such buildings are going to be used, even for the next four or five years only, they should have the fundamental necessities. The children who are now attending those schools are important too.

The Administrative Duties of the Teacher

In small districts having no regular administrative head other than the county superintendent and his assistants, the task of attending to immediate administrative problems becomes the direct responsibility of each teacher or teaching principal concerned.

Types of Schools

1. The one-teacher schools for which the county superintendent is directly responsible for supervision.
2. The schools having more than one teacher, all of whom are directly under the supervision of the county superintendent.
3. The schools having two or more teachers working under the immediate leadership of a principal who carries a full teaching load.
4. A group of rural schools under the direct super-

vision of a regularly employed supervising principal.

In all of the situations just mentioned, the teacher has an important role as administrative agent. In schools in which there is no designated head other than the county superintendent and his assistants, the teacher's role as administrator is most important, since she will be largely responsible for carrying out the administrative policies of the superintendent and the school board as well as certain desires of the community. This is one excellent reason why rural teachers should work unceasingly toward being superior teachers and why such school districts should use every means in their power to secure and keep superior teachers.

Administrative Advantages of the Small Unit

In many respects the small school has definite advantages over larger units in providing a successful developing curriculum:

1. The number of children in the school is often small, providing greater opportunity for flexibility of the educational program.
2. It is usually comparatively easy to develop friendly relations with the community.
3. Many natural materials and situations are found in the environment of the child. This is particularly true of the science aspects of the curriculum.

The Small School Plant

Usually a teacher has little opportunity to assist in selecting or changing the location of a school building. Much can be done, however, in improving the conditions which may be found there. The dynamic teacher will resort to every sensible means for getting the needed and desired changes. Some suggestions for improving the grounds and painting the buildings where public funds are insufficient follow:

1. Under a cooperative school board, a long-term plan of improvement may be pursued. By this plan a portion of the work will be done each year as funds permit. The plan can be carried

forward even where funds are very limited. The long-term plan should be developed as quickly as possible.

2. While cooperation is being built up with the school board and community, the teacher has an opportunity for advancing a program of improvement by doing certain things herself. When members of the board observe signs of activity in improving the school plant, they will often be more than willing to help carry the plan forward. Of course it is most certain that all work involved in reconditioning an old plant cannot be done by the teacher alone, but often much help can be obtained from friendly patrons of the school, older pupils, and other interested persons.
3. In many communities forward-looking teachers have been able to enlist the aid of certain business concerns and other agencies in assisting with a program of improvement of the local school plant.

Factors in Successful Administration of the Developing Curriculum

1. The teacher in a small school must recognize that

Good teaching in a small, isolated district, with limited resources, is just as important and vital as teaching in a large, wealthy community.

The child living in a low socio-economic community needs a well-rounded curriculum as much as or more than the child living in a community with a high socio-economic status.

2. The teacher should work to secure the best teaching aids and devices possible. Hit-or-miss ordering does not elicit support of the school board. The teacher should have a well-defined plan for presentation to the board in ample time for its inclusion in budget plans.
3. The teacher should adapt the devices and methods developed in this bulletin for a desirable curriculum to fit the needs of her own situation.
4. The teacher should seek to perfect herself in those practices which are desirable in all school units, large and small. Careful planning should precede any change.¹ Unremitting efforts to improve oneself are fundamental to good

mental health. She should understand and employ:

Evaluation of behavior and social developments as well as basic skills to determine the needs of children.

An evaluation of pupil growth in relation to ability.

More meaningful reports to parents.

Grouping for optimum pupil growth.

Promotion policies in conformity with the continuous growth concept.

The use of the experience unit in content areas.

The techniques of teacher-and-pupil planning.

Materials and Equipment

Teachers in small elementary schools may find it somewhat difficult to adapt their traditional classroom to the needs of a modern curriculum. Much can be done, however, if the teacher knows what she wants. The teacher must know what she wants, why she wants it, and have a logical plan for accomplishment to present to the local school board. With rare exceptions, a school board will assist in developing plans under good professional guidance.

The developing curriculum demands many materials which were not utilized in the traditional curriculum. This does not necessarily mean that a great amount of money must be available to supply adequately the growing needs of the present-day curriculum. It doubtless is agreed that the wealthy school district has decided advantage in ability to supply curriculum materials; however, the small district located in a rural area is somewhat compensated by the fact that smaller quantities of materials are needed and free "discarded" nature materials are often readily available. (Request Bulletin 230—*Special Opportunities of Small Rural Schools* from the Department of Public Instruction, Harrisburg, Pa.)

The budget plans for the district should regularly provide for this area, within a long-term plan which builds up a good supply over a period of years. Some other suggested ways of securing curriculum materials are:

Through help of school and community organizations

School entertainments and other affairs

Collecting and selling scrap materials

Donations from the community, either materials or cash.

¹See Bulletin 233-A, pages 12-37, 51-55, 88-93, 96-98 and pages 41-65 of this bulletin.

1. The traditional screwed-down seat may seem to be one of the first difficulties to overcome. It would be well to appeal to the school board first of all to purchase movable, single seats of modern construction. If this procedure fails for lack of funds or other reasons, the following device might be resorted to:
 - a. The seats already in the room can be mounted on strips. These work well where floors are kept in good condition and the bottoms of the strips are waxed occasionally. (Older boys like to do this during rainy recesses.) Where room permits, additional tables and chairs can be placed about the room to serve as study nooks and for carrying on various other phases of the modern program. Sturdy old kitchen tables or dining room tables can easily be cut down in height and painted.
2. Even the smallest classroom should have:
 - a. A bulletin board. It may be made of cheap wallboard, painted to blend with the rest of the room. If need be, even the two sides of a mattress carton can be neatly taped together, painted with water paints and hung.
 - b. A number of bookcases and shelves placed about the room for holding reference books, supplementary reading, and other materials.
 - c. Ample storage facilities. A little ingenuity goes a long way here. Neatness and good taste should be evidenced.
 - d. Tables for any kind of construction work, such as making relief maps. It is often possible to get a homemade one if others are not available.
 - e. A sink. If running water and plumbing are not supplied, a sink may be installed with the waste pipe leading to a stone drain pipe outside the building. Water can be supplied from a crock or jar equipped with a spigot of simple type. This is a requirement both for drinking purposes and for hand-washing purposes.
3. The smallest schoolroom should have one corner reserved for a live, growing museum. Such materials usually abound in a rural area, and can easily be collected by teacher and pupils. The proximity of "Mother Nature" herself makes it possible to renew materials constantly as interests and activities develop. The country school has a wealth of opportunity for collecting and studying butterflies, leaves, rocks, shells, and numerous other items needed for a modern school museum. Sand for sand tables and blue clay for projects are found throughout our State.
4. A library table and a few chairs. See pages 18 and 114.
5. Field excursions are easily undertaken. Opportunity can be found on every hand for studying erosion, damage done by insect pests, and other topics of interest included in the developing curriculum.
6. If the finances of the school do not warrant the purchase of many visual aids, the teacher can arrange with her classes to collect and mount a great variety of useful pictures and materials found in current magazines. School boards will furnish minimum essentials in the way of materials, such as construction paper, scissors, rulers, colored pencils, paste. With these basic materials and items collected by teachers and pupils, an excellent beginning can be made toward a supply of teaching aids. Often well-selected mounted pictures are better teaching aids than moving pictures. See Chapter XI.
7. Auditory aids may be somewhat more difficult to obtain, but can be secured if the teacher is pleasantly persistent.

The School Lunch Program

Too much cannot be said about the importance of the school lunch program in rural areas. Since most children in the country remain at school during the noon hour, the necessity for a warm lunch is urgent. No curriculum is complete that does not make suitable provision for the physical development of the child. An adequate meal at noon is a basic requirement for physical growth and health. It is an important administrative duty of every teacher to use all possible means for providing some type of hot lunch even in the smallest rural school.

1. If the hot lunch consists of nothing more than a bowl of hot soup and a cup of hot chocolate to accompany the home-packed lunch, something will have been accomplished.
2. The school board should furnish as much equipment as possible. Some equipment may be borrowed from interested parents and patrons. Many merchants are glad to donate certain pieces of equipment. Some items can be purchased through funds raised by the school. If the school is provided with electricity, an electric stove can be installed for cooking. (It

is not advisable to use oil stoves or gasoline-burning stoves since such types often create safety hazards.)

3. Dish washing and serving can be carried on in small schools by:
 - a. Part-time help hired by the school board.
 - b. Interested patrons of the school.
 - c. Older boys and girls, who have helped formulate plans and have thus assumed responsibility. Responsibilities can be made into "shared pleasures" when situations are

skillfully handled. Workers paid by the school district are required to present health certificates. It is suggested that volunteer workers also be certified by the school nurse and school physician.

4. Sometimes it is possible to convert an extra room into a good school lunch room.
5. Information about federal aid for promoting lunch programs can be secured by writing to School Lunch and Nutrition Division, Department of Public Instruction, Harrisburg, Pa.

ARTICULATION BETWEEN THE ELEMENTARY AND THE SECONDARY SCHOOL

It is highly necessary for the elementary school to establish friendly contacts with the secondary school, based on mutual respect and cooperation. The secondary school personnel must know the objectives of the elementary school and the basic philosophy back of the objectives. Every means must be taken to carry out a proper articulation. This should not be too difficult since the continuous growth philosophy is being advanced by the State Department of Public Instruction as basic to the curriculum of both levels. Careful study of the continuous growth philosophy will reveal that, in

general, the needs of pupils and the implications for curriculum adjustment are the same for both levels. Continuous growth itself suggests closeness of articulation, purposes, and practices. Closer cooperation may be secured between the elementary and secondary schools by the administrator's assuming this responsibility himself or by a coordinating committee. *This should be done through an active committee representing all districts concerned wherever children attend elementary school in one district and attend high school in another.*

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SOURCES OF PAMPHLETS

1. ASSOCIATION FOR CHILDHOOD EDUCATION
1201 Sixteenth Street, N. W.
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2. FEDERAL SECURITY AGENCY
UNITED STATES OFFICE OF EDUCATION
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Ask for Selected References, No. 10,
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3. ILLUMINATING ENGINEERING SOCIETY
51 Madison Avenue
New York City
4. NATIONAL EDUCATION ASSOCIATION
1201 Sixteenth Street, N. W.
Washington, D. C.



Pupil-Pupil Relationships Can Produce Good Learnings

CHAPTER II

The Teacher Plans for Classroom Living and Management

TO UNDERSTAND children, to live with them harmoniously in an atmosphere of mutual respect, and to guide them as they grow in mental, physical, social, and spiritual stature are the highest function of the teacher. In order to perform this function each teacher must recognize the rights and responsibilities of each individual—as a member of the group as well as individually. Our nation's basic philosophy is founded on this concept; all of our educational philosophy should be. Teachers must practice and teach that for every right there is a corresponding responsibility, and that freedoms are accorded increasingly as maturity is developed to use those freedoms wisely. Maturity will be attained by pupils in an atmosphere congenial to growth.

An atmosphere congenial to growth depends first and foremost upon the personality of a wholesome teacher and upon her knowledge and teaching skill. These are reflected in how efficiently she uses time, how she prepares for class activities, how she manages to get the most out of both class and out-of-class activities, and how she sees that all factors of school life contribute to the desirable aims of well-rounded education. These five general topics are discussed in this chapter.

USING TIME TO THE BEST ADVANTAGE

The Schedule

It would be impracticable to attempt to set up a daily schedule for every school or for every teacher in a school. Local conditions vary as well as pupil needs. However, since a daily program directly reflects the educational philosophy of the school and the teacher, the teacher should set up a guiding weekly schedule of daily activities at the beginning of the term. The administrator should see that this is done and should give helpful suggestions. This helps assure a satisfactory balance of activities.

The daily program and the weekly program in the elementary school should be flexible. To meet the daily needs of children, the different proportions of time may be shifted. If, for example, reading interests carry the group on into social studies time on one day, then reading can have less time on another day to balance it.

With each maturity level the program changes slightly. For example, both the programs for primary and intermediate children should provide for several reading groups and for ample individual reading. The time elements involved will not, however, be the same. It seems important that some aspects of the day be according to routine. A sense of orderliness is needed.

Scheduling in large blocks of time in which related activities can be carried out makes possible the integration of learning and more flexible patterns of work.

Suggested Approximate Time Allotments

(These were based on the total day, including lunch hours and recesses. The order in which the items are given is not significant.)

AREAS OF EXPERIENCE	General Percentage of Time by Weeks	
	Primary	Intermediate
Opening Routines Attendance, reading the Bible ¹ , flag salute, music, exchange of news and interesting experiences, care of the room and equipment, checking individual health, social and emotional needs, etc.	4%	4%
Language Arts—Reading Activities Systematic development of basic reading skills and abilities—mechanics of reading, vocabulary, understandings and meanings, independent word recognition, essential study habits; library reading; and reading activities which grow out of the experience unit in progress.	25%	14%
Free Play Activities (Recesses, A.M. and P.M.)	8%	8%
Experiences in the Social Living Areas Development of experience units—planning and discussing activities, executing planned activities, using elementary industrial arts materials, using community resources, doing research and reporting, evaluating work done, pooling experiences of committees and individuals, listening, reading, writing, and creative expression.	14%	17%
Lunch Period Activities Lunch, development of correct eating habits, and social courtesies. Rest or quiet games, recreational listening and recreational reading. Free play.	15%	15%
Arithmetic Experiences Developing number concepts, development and drill in fundamental operations, and development of skills in reasoning. Application to real experiences—social uses.	7%	11%

¹Sections 3901, 3902 of the Pennsylvania School Laws.

AREAS OF EXPERIENCE	General Percentage of Time by Weeks		Hour	Number of Minutes	AREA OF WORK
	Primary	Intermediate			
Aesthetic and Creative Experiences	10%	10%			
Teaching art and music; free reading, literature, crafts, assemblies, dramatization, dramatic play, club meetings; and activities of a creative or aesthetic nature which grow out of the experience unit in progress.			9:00 A.M.	15	Opening routines.
			9:15	60	Language arts, particularly reading activities of all kinds.
			10:15	15	{ Health, Physical Education, etc. Free play activities (recess) Rest, safety instruction, etc. (Planned as a whole, exact times differ daily.
			10:30	15	
			10:45	15	
Health Activities	8%	8%	11:00	40	Arithmetic.
Health and safety instruction, physical education, recreation and rest.			11:40	20	Language arts—Spelling and/or Handwriting.
Language Arts Activities	9%	13%	12:00 Noon	60	
(Phases other than reading)			1:00 P.M.	75	Social Living Area.
Listening, usage in both oral and written expression, spelling, handwriting, use of dictionary and library techniques. Supplemented by language activities which grow out of the experience unit in progress.			2:15	15	Afternoon recess.
			2:30	45	Language Arts (wide variety to suit situation).
			3:15	45	Aesthetic and Creative Experiences.
			4:00		Dismissal.

AN ILLUSTRATIVE PROGRAM

(This is how one teacher of the intermediate division worked out her schedule from the general time allotments.)

Total 420 minutes

NOTES FOR BULLETIN 233-C

PREPARING FOR CLASS ACTIVITIES

Long-Range Planning

In selecting what to study a teacher will be guided by the local school policies and the courses of study in the various subject matter fields. All the factors that enter into a learning situation must be given consideration. It is important for the teacher to know what she wishes to accomplish, and why, and to have adequate plans in order that she and the children can go far toward the realization of the desired outcomes.

A successful teacher studies the whole curriculum, what the children have done before they come to her and what they are likely to do after they leave her. Only thus can she see how her work fits into the continuity of the whole plan.

Successful teachers also spend much time and effort planning so that learning will be thorough and orderly for each child. This, of course, necessitates a thorough knowledge of each child. See pages 31-36.

Over-all planning by the teacher includes time to plan and to evaluate results with the children since this will enrich both the planning and the evaluating.

Each teacher, in conference with a principal, supervisor or superintendent, or by herself, if necessary, should do some fairly definite planning for the week, the month, and the semester. She will need to plan many times with the children, such things as which days the children will work directly with art, music, and direct health instruction; which days to have "formal" presentations in some English skills; which days to start new projects; when to start new units of work and their order for the semester or year; when excursions will fit into the plans and all about their follow-up.

The scope of work must be defined, the time planned, materials collected, procedures for each trip and excursion planned, visual aids provided, interviews arranged, books secured and arranged, and all other needed materials secured. The pupils' work will be of various forms, such as language arts, dramatics, music, art and construction work, geography, and history; and there will be need of number projects, and experiments in health, science, some basic plans for all.

Plans should also be made for the evaluation of outcomes since the purpose of evaluation is to de-

termine what progress has been made and where improvement is desired. Thus the test data become a part of further plans. The far-sighted teacher tries to envision everything, even those things which the children will think of and contribute as their own. This is just as true with six-year-olds as with twelve- or fourteen-year-olds. The basic principle is applicable to any maturity level.

There are philosophies opposed to this. First is the teacher who plans everything so that it must be done her way. This teacher accepts no contributions to her thinking. She thinks in terms of "assignments," often "busy work," to be done under pressure. She is generally a teacher who uses only a textbook and thinks that education is a matter of memorization of subject matter so that it may be recited or given back on a test paper. The learning which evolves from this is narrow and shallow.

The second is typified by the *laissez faire* teacher who lets the pupils do anything and seizes upon all kinds of exigencies to put in a school day and a school term. She does not plan and, therefore, she can make no advance preparation. It is hard to say which of the two is more harmful since both types are obstacles to true learning.

There are countless aspects of school life that need long-range general planning, shorter-range preliminary planning, and daily definite planning. Only thus can any teacher manage "a good school."

Daily Preparation

In order to make for harmonious and efficient living in the classroom it is necessary that a teacher preview her daily program each day from the opening exercises to the end of the school day. Such plans are not so rigid that advantage cannot be taken of spontaneous situations. Indeed a good teacher makes seeing and using these appropriate situations a part of her plan. She should check the day's needs thoughtfully and see that good learning is not hindered by poor management.

Before the boys and girls arrive in the morning, the teacher should put needed work on the blackboard, post new materials, and see that instructional material is ready for distribution. When the pupils arrive they will want to help by distributing these materials, and by performing various other duties for which they have assumed responsibility.

They may serve on "committees," or may work out their own plan for taking turns doing these things. It is important to remember that to whatever degree children participate, to that degree they should be held responsible. For example, if a pupil is selected to read the Bible for devotional period, the reading should be planned and, if necessary, rehearsed.

Keeping Records

It is necessary for a teacher to keep records of attendance, health, physical examinations, academic achievement, standard tests, and personality and character ratings. All records should be kept carefully, chronologically, and systematically. Actual scores of tests and percentile rankings should be a part of the teacher's records. These routine jobs should be done accurately, efficiently, promptly, and graciously. *All data should be used to promote the all-round growth of each individual child.* The important function of collected data is their use by the classroom teacher to make intelligent and positive plans in the light of them. Merely to excuse a child from routines and work unsuitable for him is a negative use of data. To plan specific routines and work to fit an individual child, because of the knowledge gained by the study of his records, is a positive use of data.

Introducing New Procedures

The Installation of a Program of Units

1. Units should remain simple. Group response is the best guide to depth and extent. Great masses of unrelated data and statistics in a set-out-to-be-studied manner do not constitute a unit.
2. Much of the value of units as the basis of learning experiences will be lost unless the teacher and the administrator understand what kind of evaluation is proper and how to help children participate in evaluating their own experiences and acquisition of knowledge. Some of the aspects of learning to be evaluated in addition to the facts learned, are (1) the increasing effectiveness in social techniques (the children work together better, plan and evaluate more easily, have better manners, etc.); (2) better individual attitudes (Are they happy at work, do they attack a problem with relish, do they have good work habits, and do they give and receive help and guidance graciously?); and (3) more fundamental understanding of rela-

tionships (how peoples and regions depend upon each other and their resources). Teaching through the unit method gets measurably better results in teaching facts and meaning than do the highly logical memorizing methods.

3. The introduction of needed new techniques should be gradual. If children have been accustomed to page-by-page assigned study and formal question-and-answer "recitations," the teacher should move gradually into types of activity which call for groups to work together, with only indirect supervision from her. For example, start one small group of two or three children on making a floor map while the others study as usual. In a day or so, when the first group knows how to get their material and how to work quietly and efficiently, start another small group or an individual or two on another activity. Don't expect children instinctively to know how to work together. It is a technique that has to be patiently taught.
4. Neither should the teacher who has never taught by the unit method undertake to do the entire year's work by the unit method the first year. The success of a unit depends to a large extent on having advance plans made and the proper materials ready. The first year a teacher tries to use the unit method she will do well to plan one unit well and carry it out carefully. After that she may wish to cover the material included in one of the unit outlines for her grade in a more traditional manner. Perhaps she needs a "breather," and perhaps she is woefully short of materials for some particular unit. Perhaps she will prefer to start the school year with a traditional textbook treatment of the materials of one of the units and try newer methods with her second unit. If a teacher teaches one to three units by the "unit method" the first year she tries such a method, that is good. The next year she can do more. By the third year she should be using the unit method skillfully and easily. By that time the children will have learned to handle themselves and she will have had time to plan her requests for books and materials to meet the needs of unit learning.
5. Another word of caution concerns teachers who themselves know how and normally do teach by the unit method, who move into schools where that method is new to the children. The teacher here should remember that the children can't be expected to know all the techniques

of carrying out activities which she knows and that she must take time to teach them slowly and carefully.

6. It is suggested that teachers who are learning these techniques will find most helpful the resource materials which may be purchased. These contain many splendid suggestions. Unit lists, from which a teacher can make selections which will fit into the scope and sequence plans of this bulletin, are obtainable through all the publishers of children's encyclopedias, through some professional magazines for teachers, and through the publication bureaus of some of the major universities.

Making Changes in Any Field

Changes to be made should always be understood, at least in their general aspects, by all the teachers of an elementary school. For example, the introduction of a new library will call for a plan about yearly budgets, about circulation, and about organization problems which should be cooperatively set up and understood by the entire faculty. This, of course, requires specific meetings for this purpose. As another example, the significance of the charts in arithmetic should be understood from start to finish by all. Each teacher should see where what she does fits into the total picture.

Changes should be gradual. They should be grown into rather than plunged into.

¹Department of Public Instruction, Harrisburg, Pa. Bulletin No. 421, "Meeting the Needs of the Acoustically Handicapped," and Bulletin No. 422, "Sight Conservation and Sight-Saving Classes."

Providing for Children with Special Needs

Special consideration must be given to individual needs. Left-handed pupils should be seated so that the light will come over their right shoulders. As far as possible, the furniture should be arranged and adjusted to meet their needs. Pupils with vision and hearing defects should be assigned to seats in those areas of the room best suited to their seeing and hearing difficulties, and such specialized instruction as is needed should be provided.¹ Children who have defects of the feet, legs, or spine may require special furniture adjusted to their physical needs. Such children should be placed in that part of the room which gives them ready exit.

Children with speech defects should be seated in such a position that any possible embarrassment will be minimized. Children who stutter should be treated calmly and with an easy manner. The teacher will plan activities so that sympathetic understanding will develop toward the child who is mentally retarded. See pages . . . and . . . The gifted should be challenged with work which interests them, not just kept "busy" with more assignments of the same type.

In many districts in Pennsylvania special classes for children with exceptional needs which are too great to be met in a regular classroom are maintained to meet State regulations. Wherever they are maintained all regular classroom teachers should understand their purposes and their general methods and give them complete cooperation.

GETTING THE MOST FROM CLASS ACTIVITIES

Using Community Resources

Everyday there are innumerable ways in which a richer interpretation of the meanings of "things about us" can be brought to the children. The units in the Social Living Area are planned to use community resources widely. Teachers should constantly relate the events of past times to their effects upon life today, the phenomena of the geographic and scientific aspects to the immediate environment of the community. Every effort should be made to have children observe and understand the things that are all about them—the sky, the weather, the land forms, the old buildings, the significance of the names of the streets, the local flora and fauna, the customs and habits of the people, such institutions as education and government, the workers and their work, the intricate interrelations which come about through the needs for food, clothing, and shelter.

The sections in Arithmetic entitled "Social Uses," should be used constantly. The content of problems has learning values as well as the practice in using numbers.

The Language Arts should often be tied directly into the real lives of the children. It shouldn't be necessary to select a topic from a list to talk about. Children who are provided with an atmosphere conducive to growth have dozens of things that they are interested in and like to talk about.

Every phase of the day, in fact, calls for the use of community resources. A list of each local community's resources should be compiled and kept up to date by teacher committees or supervisors, or by other means, under the general guidance of the superintendent. (Refer to page 5.) Every teacher, of course, should see to it that she knows this list and knows her whole curriculum well enough to see the best relationships of the two.

Making Use of Field Trips and Excursions

Today's curriculum is often called an "experience curriculum," in that its major purpose is to provide the child with many kinds of experience through which he may learn actively, in contrast to the traditional "telling" and "memorizing" type of cur-

riculum which treated him as a passive receptacle to be filled with information.

Since a basic principle of learning is that "understanding can come only through active participation of a thinking mind," it is a prime responsibility of the school to provide experiences which will stimulate and satisfy the child's natural urge to know.

These experiences which the school must provide may be grouped into three types: first, *direct* or *first-hand* experiences, in which the child actually does participate in the activity, such as a field trip to find evidences of erosion in his neighborhood; second, *observational* experience, in which the child watches someone else carry on an activity, as when he visits a processing plant, or contacts workers to get answers to his questions; third, *indirect* or *vicarious* experiences, which he may secure through listening or reading. Psychologically, the first type is of greatest value as a learning aid, with observation of an activity second in value, and the vicarious experiences third. The school, therefore, should organize its program in such a way as to take the greatest possible advantage of its environment in providing children with direct and observational experiences. The most effective technique for this purpose is the excursion or field trip.

The school in the small village or the open country is surrounded by a rich laboratory full of potential science and social living experiences¹—a near-by brook, a rocky hillside, a fallow field or a patch of woodland offers a myriad of first-hand experiences with nature; a goat farm, a hatchery, a creamery or a small factory provides for observation of a production or processing activity; the post office, the state police station or the fish hatchery gives opportunity for contact with a state or national government agency; the library or stained glass windows in a church offer cultural and aesthetic experiences.

In the larger town or city, first-hand experiences with the natural environment are less accessible, but a park often has much to offer. There may be a large garden or an estate in which to seek for plants, birds, and wild life, or the school yard itself may have possibilities. On the other hand, the urban environment has vast resources in trade and industry which offer children opportunities to watch people at work—the tools and machines they use, the work they do; watch buildings, streets, and sewers being constructed; observe different types of retail and wholesale trade; visit communication

¹Department of Public Instruction, Harrisburg, Pa. Bulletin No. 230, "Special Opportunities of Small Rural Schools."

centers, such as a radio station or telephone building; experience many types of transportation and visit art and music centers for cultural appreciations.

The excursion need not be an all-day affair with elaborate arrangements for transportation, lunch, and a rest-period. But it should be carefully prepared for, well planned as to organization, so managed that each child realizes his responsibilities and secures real learning during the whole trip. The experience should be thoroughly discussed and evaluated afterward by the group.

I. A FIELD TRIP FOR PRIMARY AGE GROUPS

Perhaps the second grade is studying "Roads Out of Our Community" and Jimmie suggests that we visit the road building operation being carried on a mile from the school.

What do you think of Jimmie's suggestion? Can we do that? What shall we want to do before we go? Shall we write the things we need to do on the board?

We need to get permission from the foreman to visit the work.

We need to ask our parents' permission.

We need to find out what to look for.

We need to make a list of questions to ask.

We need to know who should ask the questions.

We need to plan how we shall get there and back.

We need to make some rules so we won't get hurt.

We need to talk about how to act while we are there so that the workers will be glad to have us come again.

We need to make arrangements with the principal so that she will know where we are and what we plan to do.

First we decide upon a day and hour which would be best for our trip, and estimate how long it will take. Then, together, we work out a letter to the road foreman and each one copies it as carefully as he can. All our letters are hung up and we select the neatest, most accurately copied one to send. When our eager waiting is rewarded by a reply saying that we may come, we plan a note to our parents which our teacher will duplicate for us to take home.

Dear Parents:

We would like to go to watch the road being built near Poole's Corner. We plan to go at ten o'clock on Thursday, October 15, and to get back to school by noon. We are making some rules for safety so that no one will get hurt.

Please sign your name to this note if you are willing for Jimmie to go.

(Parent's signature)

We take several discussion periods to decide what we think we can find out by watching, what questions we shall need to ask, and who shall ask the foreman each question. Each person copies his own question so that he will surely ask it correctly.

Then we plan our route and discuss possible hazards which we may meet. We decide to cut through the woods and over the hill on a woods road which Richard knows. (Richard and his older brother will go over the road to see if it is passable and safe.) Next we shall have to walk along the highway to Poole's Corner. From there we shall follow the newly finished road until we come to the construction. We decide that each of us will choose a "buddy" and stay with him all the way over and back and while we are there, and that the "buddies" will remind each other about our rules.

Rules for Safety

- (1) Stay with your buddy all the time, take good care of him.
- (2) In the woods stay on the road and keep close to the rest of the group; follow Richard and his buddy.
- (3) Hold the wire up for your buddy when we go under the fence so he won't get scratched or tear his clothes.
- (4) On the highway, walk on the left side in single file, keep close to your buddy, keep off the road pavement, and watch carefully for cars. Move over when cars approach.
- (5) When we cross the highway at Poole's Corner Richard and his buddy will act as patrolmen; cross when and where they tell you to.
- (6) At the road construction keep close to the group, do not go near the machines unless the foreman takes us.

How to Act

- (1) Stay close to the foreman and listen to what he says; taller ones stand back so the shorter ones can see and hear.
- (2) Keep quiet so all can hear him.
- (3) Let the persons chosen ask the questions; if you want to ask other questions get permission from the teacher.
- (4) Ask questions loudly and clearly, so the foreman can hear.
- (5) Say "thank you" to the foreman and the men when we leave.

On the afternoon before the trip Richard will suggest what kinds of clothes and shoes to wear so that we shall not get wet feet or tear our clothes on briars in the woods. In the morning we check to see that we are ready, and read over our rules once more. Perhaps, too, we can talk about what we shall see in the woods, and plan some things we might want to do when we get back.

We could make pictures of
the colors in the woods

the things we can see from the top of the hill
the machines and the men at work

(We decide that we shall have to look at the

machines and the men very carefully if we want to make good pictures of them.)

We could make a map-frieze of our whole trip. (Again we shall have to watch carefully just how we go and what is to be seen along the way.)

Each person could tell us his question again, and the foreman's answer, so that we shall remember them better.

We could make up a story about our trip and put it with the pictures or the frieze.

We start off feeling ready for our excursion and eagerly anticipating what we shall see and do, but we are not excited and keyed-up. We have had plenty of time to plan, we have clear purposes in mind, and we have organized ourselves to accomplish our purposes as smoothly and safely as possible.

And now we are on the way back to school. We chatter about it all as we return; then we have lunch and a little rest-time before our afternoon discussion period. We decide to have the questions and answers first, and as we listen, we raise other questions or report special things we saw. (A purposeful oral language period.)

Then, while it is still fresh in our minds, we want to draw, and little groups form here and there to work together, or individuals carry out their own ideas. Soon it is time to go home, and we have lots to tell mother and father at dinner time.

In the morning we have a little time for telling what father and mother said, to show some pictures we found at home, to ask some new questions, and to plan when and how we shall go on with our pictures or our frieze or the story we want to make up together. Then the teacher says, "Now before we have our reading groups, I'd like to ask you some questions. What do you think was the best part of our trip? What were the most important things you learned? Did we learn all the things we wanted to know? Did our rules work out well? How could we plan better if we take another trip? Should we write a thank-you note to the foreman in our language time today, and tell him what we liked best?"

The Teacher's Evaluation of the Excursion

Among her notes on the unit "Roads Out of Our Community" the teacher makes her own evaluation of the trip by answering briefly under the heading, *Excursion to Road Construction, October 15*, some such questions as the following:

Was it successful, in general?

Did it achieve the purposes I had in mind?

Did the children achieve their purposes?

How could it have been improved—in the cooperative planning, in its organization, in the learnings acquired, in the follow-up discussion and activities?

What "leads" did it give me to the children's needs as a group and as individuals?

Analysis of Unit

This account represents a simple type of excursion: short in time span, requiring no complex financial or transportation arrangements, involving few hazards, and with its focus upon an activity simple enough for the children to grasp in the time planned. It grew naturally out of the unit in progress; the children took a responsible part in planning it and in making the arrangements; they were purposefully occupied, both on the way and at the destination of the trip; each part was managed so that every child knew what to do; each child had some responsibility for his learnings and his own safety and for the comfort and welfare of the group.

Such short, simple excursions are the most desirable type for elementary children, especially for primary grades. With adequate cooperative planning, the group returns from such a trip fresh and stimulated—not physically exhausted and emotionally overwrought as is sometimes true when the trip has been long and too much has been attempted.

II. A FIELD TRIP FOR INTERMEDIATE AGE GROUPS

A trip to the local newspaper exemplifies good practice with an intermediate age group. During a Current Events Period two boys reported on a trip they had taken to the local newspaper office. They had samples of type, made on the linotype, to show the class. The class became very enthusiastic and plied the boys with many questions. One of the children asked if we couldn't all go to see how our newspaper was made.

It was decided that a tour would be made at the convenience of the newspaper office. The two boys were delighted to make arrangements and wasted no time in making the appointment. How best to perform such an errand was discussed as to approach, good manners, and definiteness of arrangements. Rules of group conduct, what to say when introduced, safety and hints on accurate observation were planned and practiced by the group.

From our discussion nearly every child **knew** some things to look for. How do they make those

strips of words? What is a linotype machine and what does it do? How big is a printing press? How does the paper come out? These were some of the questions we hoped to have answered.

The people at the newspaper office were glad to introduce us to their world. The boys who had aroused our interest acted as guides and took us to the office of the newspaper which was about four blocks from the school. We were introduced to the owner and editor of the paper and were personally conducted on a tour.

The children looked for the things that had been discussed before and were very much interested in all that took place. They looked at the linotype machine and saw it operate. They saw the frames where the columns of the newspaper were set up. The children saw the machine which made the cartoons and the furnace where the lead was remelted and the large press which actually printed the newspaper. They saw stamping machines, stapling machines, boxes of type used for hand-setting of type which was used in the stamping of special pamphlets, etc. They were particularly interested to see pamphlets about a farm with which they were all familiar. The children began to realize that many activities were carried on in the printing of a newspaper.

After a complete tour of the plant, the press, which was still set for the previous week's paper, was started and the children actually saw a newspaper printed. The huge rollers began turning—the papers came off the press, were folded, and made ready for distribution.

Each child was presented with a newspaper he had seen printed. Before we left, the owner wanted a list of names and information about the grade so he could give us a write-up the next week. In the next issue of the paper the name of each child appeared in print and a very complimentary account was written about the intelligent questioning and the good conduct of the group.

Upon return to school the children recorded their experiences in story form. In writing the stories they recalled many incidents which needed more explanation. To clear up these problems the owner was invited to talk to the class. At that time the history of printing and the growth of the newspaper were discussed and troublesome questions were answered.

Teacher's Preliminary Plans

If an all-day trip, perhaps to a neighboring city, seems an essential part of a unit it should be planned

with extreme care by the teacher, and much cooperative planning should take place with the children. Every precaution should be taken to avoid overstimulation, confusion, and fatigue for the children. Usually, when such a trip is contemplated with a group of twenty or more children, it is desirable to have several adults accompany the group. If this is done, they too should participate in the group planning and should have definite responsibilities as part of the group.

The excursion is a tool of high value in the educational program, but, as with other tools, it must be used appropriately and with care if it is to contribute effectively to the purposes undertaken.

The Use of Bulletin Boards, Blackboards, and Tables

The bulletin board, blackboard, and construction or sand table are all valuable instructional aids.

Materials should be displayed without crowding. They should be well organized, arranged attractively, contain interesting material, be changed frequently, and not contain enough material to be confusing. Pupils should largely plan and be responsible for these details.

The blackboard remains one of the most practical and functional of the teaching aids. It is always convenient and available to give ideas visual representation. It is flexible in its use and can be adapted to needs of different teaching situations. In building up the blackboard work a teacher should use ideas and information which pupils contribute, so that the learning activity may have greater value because of their participation. The blackboard also allows actual physical participation on the part of the pupil in developing the lessons. A meaningful class period follows a developmental plan. Through the use of the blackboard, the teacher and pupils can make appropriate notes or outlines as the lesson progresses.

Tables, such as sand tables or tables for projects, are excellent for use in developing concepts of physical surroundings, physical features, physical setting of centers of interest, type regions of the world, community or home planning, demonstrating factors of conservation, and such other uses as will help visualize concepts to be learned. A child with an open cut or sore should never work in the sand, both as protection to himself and to others.

The traffic lines for all tables which are planned for free use, such as library tables, and tables for toolwork, should be carefully planned. Much dis-



An Interesting Environment Makes for Interested Children

order is invited when the passage to and from tables is not clear or if they are so placed as to distract the attention of those who are working at their own desks. Acceptable group standards for free movements should be cooperatively set up and evaluated from time to time.

Using the Library

Many suggestions are included in both the Language Arts section and the Social Living section of this bulletin. See also pages 113-116.

Using Audio-Visual Aids

Many suggestions are included in both the Language Arts section and the Social Living section of this bulletin. See also Chapter XI.

Using Elementary Industrial Arts Experiences

Elementary Industrial Arts are concerned with all of the experiences children have in using mate-

rials and with the concomitant learnings and satisfactions that result because of these experiences. The use of industrial arts materials in the education of the five- to twelve-year-olds is becoming so much a part of present-day practices in the elementary school that to discuss Elementary Industrial Arts as a compartmental area would tend to obscure its primary function as an integral part of the child's total living—his work experiences, his play experiences, his community experiences.

We are learning more and more about the child in each of these age groups and how he develops. (See pages 71-74.) We know now that his natural curiosity about the materials and things in his environment and his instinctive desire to handle these materials and to fashion them so that they will express his ideas, or will meet his needs or those of the group, are his way of learning to live more effectively in his world. Among the materials that should be available for his use are wood, paper, cardboard, textile fibers, cloth, foods, clays, metals, as well as a great variety of "nature" and of "discarded" materials and things. Observing children in

situations in which they use industrial arts materials is invaluable to the teacher in studying her children. Many such activities are included in the chapters on Arithmetic, Social Living Area, and Language Arts.

The teacher knows that the article that is being made by the child, while it has definite value in his eyes, is far less important than are the things that are happening to him during the experience. Therefore she needs to search continually for the values inherent in various materials and activities that will bring about changes in the child's behavior pattern. Among the many values are the opportunities it provides the child to learn by doing—real situations in which he learns:

- To work creatively and with satisfaction in the material of his own choosing
- To keep alert and curious about people and things and to find real and satisfactory answers to his questions
- To use his imagination and to express his own ideas—leading to the development of aesthetic values and to the invention of better ways of carrying on a job
- To add meaning and richness to his vocabulary through first-hand experiences with materials
- To react thoughtfully to situations in which he has something concrete to analyze, to compare, to evaluate
- To develop self-confidence and a feeling of security by realizing that a mistake is not a failure, but is rather a challenge to further activity
- To recognize his classmate's progress and achievement as well as his own
- To develop an understanding of peoples of other times and other places through meeting and solving somewhat similar problems while working in materials
- To live and to work with others cooperatively by living and working cooperatively in the classroom

As she becomes skillful in providing situations in which materials function in learning, the classroom teacher will note several changes: the child becomes a person, the class becomes a socialized group of human beings working together for common ends, and the demarcation between elementary industrial arts and arithmetic, or language arts or science or social studies tends to disappear.

Using Textbooks

Textbooks are an invaluable aid to teaching. They are, in fact, probably one of the most important tools of learning. They should not, however, be seen as the whole of the curriculum, nor as its rigid framework. Every teacher should so plan that she makes the richest possible use of basic and supplementary texts. They are excellent tools, but like all tools can be poorly used.

Good usage demands that a child's textbook be useful to him—that he can read it, that he can find in it the material which he needs. It follows that

textbooks of several levels of reading difficulty will be used in any class. It may well be that a teacher occasionally wants every child to have the same book for some types of class work or for some common purposes. Some teachers also prefer to have the class as a whole start with one common book and enrich ideas by using other books additionally.

But for many purposes, a variety of supplementary texts is necessary. It is often well to have one group of children be responsible for bringing to the discussion what one author has to say on a given subject, another group another author, another group the encyclopedia, and so on until all the best authorities are consulted and a real discussion can result. When authors disagree, the teacher has an excellent opportunity to develop the idea of authenticity.

Children also often need books for different purposes. One day a child is finding photographs of old engines and the best ones are in one book. Another day the same child may need scientific information about how an engine runs and another book is better suited to his purpose. Again he may need to study the workers who run trains and he finds a third book most useful. No one book can make exhaustive treatment of all topics.

In nearly all fields a basic text can supply a planned development of basic concepts and abilities. The basic text must, however, be carefully used to fit both the curriculum plans and the child. It is an important part of adequate learning situations.

Evaluating Pupil Progress Through the Use of Tests

Soon after the beginning of the twentieth century the objective approach to the evaluation of pupil achievement and intelligence had its beginning. With the appearance of commercial ready-made tests, much importance was attached to testing of all sorts. There was a tendency to consider the objective measurement of pupil achievement and intelligence to be of first importance. The present view is that objective tests can measure only a part of the outcomes of instruction and pupil behavior. It is true that objective tests are still extremely important in supplying essential information, but it is becoming more apparent that there are other evaluating instruments, such as the anecdotal record, the questionnaire, the rating scale, the cumulative record, and the case study, which also have a place in the evaluation of pupil achievement and behavior.

Of recent years, educators and psychologists have regarded testing as an evaluation rather than a measurement. This is because they are now considering the whole child and his behavior rather than attempting to catalog his behavior and abilities in separate compartments. *It would be well for teachers and administrators to consider the evaluation concept in selecting and using objective tests and in evaluating pupil progress through their use.*

It is extremely difficult to classify tests because they are so varied in type. They differ in form, origin, function, and content. There are tests, scales, and scaled tests. There are power tests and rate tests. As to form there are oral tests, essay type tests, and objective tests. As to function, there are educational tests and mental tests.

The suggestions given here as to the selection and use of tests should be a valuable guide for any elementary school program.

I. USING ESSAY-TYPE TESTS

An essay-type test consists of an examination by the teacher, usually stated in questions which the pupils answer in essay form. The main objection to this type of test is that the teacher's attitude in scoring is influenced by too many factors of opinion. However, there are advantages in this type over the objective or new-type test to the extent that it is helpful in evaluating the ability of the pupil to think, and to work out problems. *It should not be considered old-fashioned or out of date to use the essay test as one part of a total testing program if the scoring is made as objective as possible.*

II. USING OBJECTIVE OR NEW-TYPE TESTS

Objective tests are either informal or standardized. They differ from the essay type in that they provide for short answers by encircling, underlining, or filling in letters, numbers, words, short phrases or short sentences. The main advantage of this type of test is that the teacher's attitude in scoring is not affected so much by factors of opinion; hence the test is "objective."

Informal objective tests are usually constructed and used locally with no usual attempt to establish norms. They are valuable to the extent that they provide an inexpensive type of evaluation in measuring achievement in specific areas of learning.

Standardized objective tests, almost invariably commercial, are produced by test specialists who through wide sampling and painstaking statistical means establish norms for the tests. Good standardized tests are also constructed to conform to cer-

tain scientific standards such as validity, reliability, adequacy, objectivity, administrability, scorability, comparability, economy, and utility. Teachers and administrators who are not thoroughly familiar with the field of standardized tests should seek the advice of persons informed on that subject before selecting tests for any testing program. *Any test should be carefully selected for specific purposes; the uses to be made of the results should determine largely the type selected.*

III. INTERPRETING TEST RESULTS

Norms are given for all standardized tests. A norm can be defined as the level of achievement a "typical" pupil actually attains. Norms for standardized achievement tests for use in the elementary school are usually stated in terms of grade equivalents and/or age equivalents. Since they represent the median achievement of "typical" pupils in "typical" situations over a wide range of population sampling, they must not be interpreted in an absolute light. This means that in a class of average performance, which is just at the norm on a standardized test, one half of the class will normally fall below the norm. For this reason pupils whose performance on a standardized achievement test falls below the established norm, do not necessarily fail. The test results of each pupil must be interpreted in the light of other criteria—his age, his ability, his opportunities, and his application. Much injustice has been done to school children in the past through a rigid interpretation of test data. Only as teachers strive to know and study children, will this situation be corrected in the future.

It is not desirable to evaluate teacher performance on the basis of standardized test results. Norms represent roughly average performance in average situations. Since local situations vary as to attitudes, abilities, and environment, much injustice can be done to teachers through improper interpretation of standardized tests. It might be well to restate the maxim: *"The average child (or the average class) has not as yet been discovered either on land or on sea."*

The terms "norm" and "standard" should not be confused. Few test norms are published in terms of standards. There are certain standards of achievement which have been fairly well accepted by educators for such abilities as handwriting and spelling. They represent minimum levels of achievement for most pupils at a certain point in school progress. However, the modern view is to provide for each child the type of instruction adapted to his needs, interests, and abilities, and to evaluate the pupil

in terms of himself as an individual. *It is not defensible to think in terms of trying to get all children to perform at a standard level common to all.*

Some elementary school standardized tests provide norms in terms of percentile ranks, although this is a more common practice in connection with high school and college tests. This score describes a pupil's test performance in terms of the percentage of pupils below him. For instance, if a pupil attains a score equivalent to 90 percentile rank on the table provided for the test, 90 per cent of typical pupils in typical situations are making achievement scores below him. The term "percentile rank" is not to be confused with the traditional system of marking by "per cents."

IV. RECOMMENDED USES OF STANDARDIZED TESTS

It is desirable to consider all standardized tests as diagnostic. Some tests are highly analytical, and are designed to locate the pupil's difficulty in different subjects. For instance, a standard reading test will enable the teacher to study the abilities of individual pupils in word recognition, word meaning, phrasing, rate of reading, ability to get the main idea, and comprehension of facts. Although some tests are highly analytical and are sold as "diagnostic" tests, it must be pointed out that other achievement tests, even those of the general achievement survey type, have high diagnostic value if analyzed individually. *For this reason it is recommended that standardized achievement tests be administered early in the school year, that they may guide the teacher in the proper direction of pupil growth.* If funds are available for testing twice a year, the tests should be given at the beginning and near the end of the year, so that growth may be measured as well as strengths and weaknesses diagnosed. To administer standard achievement tests at the end of the term for "measurement" purposes only, is a comparatively poor investment of valuable time and funds.

Standardized tests are most valuable in studying children when they are used in conjunction with all other data gathered. A survey achievement test may reveal that the curriculum is too difficult for one child and fails to challenge another sufficiently when the achievement age scores are compared with the mental ages and other available data. Survey test results, properly diagnosed, may reveal causes of overaggressive behavior, recessive behavior, day-dreaming, and dislike for school.

Group tests of personality and adjustment have been used less successfully than other standardized tests because it is difficult to get the child to place

his true feelings on paper. Such tests may have more value to the teacher if they are administered individually. The nature of the answers given may be more meaningful to the examiner than the total score. Imperfect as personality and adjustment tests are, they may, however, assist the teacher in discovering frustrations, failures, and conflicts which affect normal school progress—if she has the skill to interpret and use the resulting data.

Intelligence tests measure the ability to learn or the ability of the individual to adapt himself to new situations. They are sometimes used as supporting tools for the interpretation of achievement tests; for the more exact classifications of pupils; as guides in solving problems of pupil behavior and conduct; and as aids in vocational guidance. *The results of intelligence tests should be held in professional confidence by teachers and school officers.* Such information should be used only for school purposes, given to parents only in well-considered instances, and never to pupils of elementary school age.

Intelligence test results are given in terms of mental age. If this is expressed as 10.6, it means that the pupil has a mental age of ten years, six months. By dividing the mental age in months by the chronological age in months the resulting quotient is the intelligence quotient or I.Q. A child with an I.Q. of 1.00 (expressed as 100) is considered as average or normal as far as his ability is concerned in relation to a normal curriculum. The "normal" range runs below 100 to approximately 90 and above 100 to approximately 110.

The usual practice in the six-year elementary school is to administer a group intelligence test at least twice to each child, once near the time of the child's entrance to school and once again at the end of the third year in school. A third group intelligence test may well be administered during the last year in the elementary school. It will be valuable as a part of the total record of the child for the secondary school program. *A pupil having any type of serious difficulty should be given individual intelligence tests administered and interpreted by trained specialists.*

All the necessary test result data should be recorded on the front or record page of the test, the front page torn off and filed in the pupil's cumulative folder. See page 36. All test records should show date given and grade or year in school. Standard tests, where the grade equivalent or age equivalent is not given, should give the pupil's achievement in relation to both class median and standard median. Intelligence test records should show both

mental age and chronological age. *Standardized tests are most effective when the results are made readily available to all persons concerned at all times, as the pupil progresses through the school years.*

Optimum use of standardized tests is made when they are used to study the child. Using tests only for marking and promotion is failing to get their full value because:

1. They can be used to discover specific weaknesses or learning difficulties in various skill subjects, such as in reading, arithmetic, language, and spelling, to provide bases for remedial teaching.
2. They can be used to determine the degree of learning or growth in various areas of the curriculum, enabling the teacher to provide the proper environment and instructional materials.
3. They can be used to discover certain physical or emotional disabilities. For instance, a child
4. They can be used to discover conflicts, frustrations, and disabilities caused by a curriculum that is too easy or too difficult. A comparison of mental age and educational age will be helpful.
5. They can be used as an over-all study in a school system as an aid in curriculum study. Median achievements will be helpful in pointing out needs for curriculum revision—overemphasis or underemphasis in certain areas.
6. They can be used in connection with cumulative and anecdotal records to discover personality maladjustments.
7. They can be used through diagnostic and prognostic interpretation to adjust the curriculum to the needs, interests, and abilities of children.

GETTING THE MOST FROM OUT-OF-CLASSROOM ACTIVITIES

Learning During Bus Waiting Periods

The bus waiting period can present a real problem to a school if thoughtful plans are not made for the individual school. The length of the wait, the weather, the maturity of the children, and the total teacher-scheduling problem should be taken into consideration. Teachers should devote as much faculty meeting time as is necessary for working out some plans that will make these periods fruitful for good learnings. The children involved should also be brought into the planning. Appropriate activities, places to wait, and adequate supervision are necessary. Children are naturally active. To fail to make plans in the light of this knowledge is to invite disaster.

Living Together During Recess Periods

The school is a social institution. All activities should be evaluated in terms of what the pupils learn from them by way of acceptable social behaviors. Intermissions, recesses, and playtime should be coordinated within the program of a whole building in order that classes will not disturb each other by unnecessary noise. Playgrounds must be super-

vised and teachers' schedules arranged to this end. Playground time should be seen as learning time, even though it is free play. The alert teacher will see much which will have meaning for her plans for meeting the needs of individuals and of groups. Here is a real opportunity for a teacher to know children in an informal situation, where she can establish rapport with them and earn their respect. Free play is a part of the Health and Physical Education curriculum. Scheduled time should be used to teach games and conduct that will carry over to these informal play times. The ingenious teacher will secure some play equipment. High school teams often have footballs not suitable for games which can be made available; one or two rubber balls help; a length of 2" x 4" lumber can easily be made into the equivalent of a railroad rail to walk and balance on; an old basketball can be fun for dodge ball games. School boards will be disposed to help a teacher more readily if she makes good use of what she has.

Inclement weather can be fun too. It's nice to play music that the children enjoy. They like to make scrapbooks and doll clothes and model airplanes. They like to use big brushes and big paper

and paint. They like quiet games like checkers and dominoes and other games suitable for children. They like to share library books and play house. Sometimes they like to push the chairs back, open the windows and play ring games or relays. They like to use the blackboard. They like to just sit and talk with the teacher. All such things have social learnings and recreational values.

Lunch hour too is a learning situation, whether lunch is bought in the cafeteria or carried from home. Cooperative plans should be made for hand-washing, group conduct, cleaning up, table manners. There should be a tie-up too with the nutrition parts of the health program. See Chapter VI.

Doing Homework

Another important factor affecting classroom living and management is that of homework. Few parents or schoolmen favor daily homework assignments earlier than the fourth grade. Children of younger groups may be asked to do a little exploring and to report back to the class. From the fourth grade upward, most educators favor a limited but steady increase in the amount of homework to be assigned.

In considering the opinions expressed on time allotments for each grade, the general conclusion reached is that there should be no homework at all in the first three grades; assigning homework in the fourth grade should be left in the hands of the individual teacher who knows the trend of her community better than any one else; homework for fifth and sixth grades should take no longer than thirty to forty-five minutes. Assignments should be individual, since speed of work differs.

The right type of educational philosophy stresses school work in school hours. Young people should not be expected to carry many books at the expense of good posture and at the risk of physical strain.

The type of homework to be assigned depends upon the individual situation. Under ideal study supervision, homework should be mainly unfinished

work begun in the classroom. It should never be new work just begun, nor such work that the pupils are not able to proceed by themselves.

Work may be done at home

1. To improve skills:

Completion of drill work in arithmetic
Drill on number combinations, tables, etc.
Mastery of difficult words for reading
Drill on spelling words
Drill on material to be memorized

2. To amplify knowledge

Reading for pleasure
Reading reference books to make reports to class
Reading library books
Dictionary study of words for meaning and pronunciation

3. To link home and school and improve parent cooperation

Children may read aloud to parent special reading; for example, something he reads very well, or something he wants to practice so that he may read it very well to his classmates.

Encourage parents to report to the teacher any observation concerning child's homework that they may think important.

Urge parents to encourage the child to be as independent and resourceful as possible.

Performing in Public Entertainments

The habitual use of pupils as entertainers for PTA and similar organizations is not only contrary to good practice, but is opposed to PTA's state and national policies. As a matter of policy the school should limit such use of children to one or two performances a year and provide a program which will illustrate school activities or curriculum practices. This helps to keep the community informed as to school practices and permits pupils to develop pride in school life.

PROVIDING FOR SOME ASPECTS OF EDUCATION THAT PERMEATE THE WHOLE DAY

Healthful Living

Many factors of healthful living affect classroom living and management. From the health point of view it is important to control the amount of heat, light, and fresh air. This is largely the teacher's responsibility. A comfortable classroom is about 70° at floor level. The teacher must always be conscious of and endeavor to eliminate stuffiness, offensive odors, drafts, and extreme heat. The teacher is also responsible for regulating light for best results possible in her room. This includes free windowsills and windows, proper adjustment of shades, and seating to best advantage.

The time for drinking milk during school hours should be carefully selected. Boys and girls should drink milk after the play period, or at a corresponding time in the afternoon. This spacing should take into account the noon and evening meals. The distribution of free milk to needy children must be handled tactfully by the teacher.

Learning Inter-Group Living

"All men are created equal and are endowed by their Creator with certain unalienable rights, and among these are life, liberty, and the pursuit of happiness." We accept this in America as the basic principle of human dignity and freedom on which a strong nation has been built. This principle has inspired and will continue to inspire the hopes of all people of the earth.

Of all our institutions in American life, the school is best equipped to become the working laboratory and training ground for true democracy. Should the school fail in this effort, our last real hope is gone. The school has the task of making clear what democracy means in human relations.

Intercultural education is concerned with two important factors in our community and national life: (1) the many racial, religious, national, and socio-economic groups that make up our population, and (2) the need for essential unity among these groups if our democracy is to reach its fullest and highest development.

Since children are the growing points in our transmitted culture, our foremost responsibility is to see that children of all groups learn to understand and

appreciate one another and gain the strength that will enable each to make his greatest contribution toward the welfare of all.

One educator has remarked, "Automobiles come in models; children do not." Children come in many shapes and sizes. They bring to school not only differences in physical features, sex, color, religion, and nationality, but differences in culture and a variety of feelings of belonging.

No child is all-American. No one is "pure" stock and no one is racially superior. Each comes to school with a great many things in common with all others but with individual differences that constitute the strength of America. The school is an intercultural society of living, growing personalities who are at the stage of very rapid growth, not only physically, but verbally and attitudinally as well.

The teacher's greatest opportunity is in planning activities of the classroom in such a way that every boy and girl, regardless of race, color, creed, or economic status, can acquire a feeling that he belongs, is welcomed, is respected, and shares in every way all rights and privileges as well as the responsibilities that come with full membership in the group.

Teachers can carry their responsibility in this field only as they:

1. Understand and live by the democratic principles underlying our great American documents and help children grow in this direction.
2. Believe in equality of opportunity for all, the sanctity and worth of human personality, equal rights under the law, and the right of people to equal participation in public affairs.
3. Accept the religious ideals which bulwark our democratic faith, such as the brotherhood of man, the protection of the rights of the weak, the poor, and the handicapped.
4. Are familiar with the historical, anthropological, sociological, and psychological facts upon which sound intercultural education is based.
5. Are acquainted with basic information concerning our cultural diversity and the conditions necessary for smooth interaction.
6. Know the techniques for bringing cultural diversity into harmony with the requirements of democratic life.

7. Understand how to provide opportunity in classrooms for democratic living.
8. Are able to use techniques for awakening deep loyalties to democratic ideals and the Golden Rule.
9. Are able to satisfy increasingly the emotional needs of all children.
10. Are alert to discovering incipient tensions among pupils and are able to make skillful use of techniques for preventing or resolving them.
11. Succeed in enlisting the support of parents and community in achieving these ends.

Intercultural education is not a current educational fad but something that is of ever-increasing importance in our country and in our world. It is not just one more division of education. It is a golden thread that runs through all activities of the school day and binds them together to serve the great purposes of mankind. It accents the importance of fine human relationships in the process of becoming educated. We obtain full value of the democratic way of life only as we develop intelligent and sensitive cooperation among the many groups that make up America.

A sound program of intercultural education for the elementary school involves (1) basic information, (2) emotional conditioning, (3) meeting special needs of those educationally or socially handicapped, (4) skills for carrying on the democratic process, and (5) work with parents and community and utilization of community resources.

Planning such a program requires considerable knowledge about the particular community in which we work—not only about housing and economic conditions, but about the dynamics of community living—how people feel and react toward one another and toward those who they feel are different. It is the attitudes of the community and its children toward other people that form the starting point for our work.

All children will need:

I. BASIC INFORMATION ABOUT PEOPLE

Children must learn more about more kinds of people, with emphasis, not on the quaint and queer, but on the common characteristics of all people. Different people, with different cultures, behaviors, and attitudes, are not peculiar or inferior. "It all depends on where you are and what you have to build with."

Mistaken notions and myths about many groups will need to give way to truthful, balanced informa-

tion. Care must be exercised in the selection and use of books dealing with other people and other cultures so that children get to know and understand these people in the kind of adequate light in which we would have other people know us. Only with such basic understandings and appreciations can the children learn to deal with people as individuals rather than as stereotypes.

Children will study American history as a true composite of the people who are Americans. Americans come from no one country but from places all over the world. Some, it is true, did come on the Mayflower, but many more came through Ellis Island. Many came in the holds of ships, in steerage, many on slave ships, but all groups have given sweat and toil to make this the land of their dreams.

The development of such a concept of America and Americans will pay large dividends. Our goal, "E pluribus unum," is a worthy one. This goal cannot be achieved through textbooks alone. Supplementary materials, audio-visual aids, magazines, newspapers, and above all—first-hand favorable experiences with people of many different groups are of great value.

The following specifics will be helpful in improving the orientation of children:

1. Study of the contributions of men and women of many different groups to our culture.
2. Folk contributions of various groups that have enriched America in art, music, handicraft, foods, festivals, and in other areas.
3. Special units on Mexicans, Eskimos, Chinese, Africans, Indians as they live today in other parts of the world, and on groups living in our own community as well. Care should be exercised that the unit does not leave the child so much with a feeling of difference as with an understanding of common needs, problems, hopes and aspirations, and a basis for meeting these needs cooperatively.
4. Units indicating common interests of many different kinds of people. "All children like to play games."
5. A study of interdependence of people in community living. "How necessary to our lives are the doctor, the garbage collector, the farmer, the shopkeeper?"
6. The meaning of America and our great documents as seen through poetry, stories, history, current events. Skillful use of radio programs and the screen can contribute largely to this.

7. Factual and ideational basis of our assembly pageantry, celebrations, and other dramatizations. This is frequently lost to children unless the classroom affords an opportunity to discuss and clarify their significance and application.
8. First-hand experiences, stories, poems, and discussions that help children see and feel what acceptance, rejection, security, and frustration do to people.

II. EMOTIONAL CONDITIONING FOR DEMOCRATIC LOYALTIES AND VALUES

"The intellect is a tiny speck afloat on a sea of emotions." People usually behave according to the way they feel rather than in terms of what they know. Knowledge that is not supported by proper emotional conditioning is not likely to result in improved behavior. It is most important that the emotions of children be tapped in such a way as to stimulate worthy behavior.

The following are ways in which good attitudes can be strengthened:

1. Assembly exercises in which special days or weeks are commemorated through dramatic sketches, festivals, pageantry, and the like.
2. Fine first-hand experiences with representatives of all groups. Children should have experiences with individuals of many other groups who do not conform to the stereotype.
3. Associating something for which children have respect with members of other groups that have talent. Knowing an Italian painter, a Negro scientist, a Japanese archeologist, a Jewish sculptor, does much to help children re-think human values.
4. Carry-over of what is learned in classroom to lunchroom, school clubs, extracurricular activities, and community. In these situations, children learn democratic or undemocratic behaviors.
5. Intervisitation, arranged in such ways as not to bring about feelings of inferiority or superiority. It is of inestimable value for the city child to find out how much intelligence and skill are required to operate a farm or for children of academic ability to come to appreciate how much skill is required to turn out many of the products that make life more interesting and more enjoyable.
6. Organization of groups within the classroom to make a certain emotional impact. Opportunities can be afforded children to work and play with

more kinds of children than ordinarily would be their lot. A royal family of Europe, in training the young princess for a more democratic life, made provision for her to attend class with the children of physicians, the industrialists, bootmakers, the charwomen, teachers, farmers, and the like, in order that the princess and the other pupils might develop that sense of relatedness, understanding, and appreciation in their growing years. Rich and poor, stupid and bright, children of varied ethnic, racial, and religious backgrounds gain in insight and understanding through wholesome contact.

III. INTELLECTUAL SKILLS WITH WHICH TO HANDLE PROBLEMS OF HUMAN RELATIONS

Children will not learn to think straight about other groups until they have learned how to think. In all fields of activity in the elementary school, learning how to think must be stressed.

Children can be taught how to draw generalizations and can learn that stereotyping is a sloppy way of thinking. Even in early years they can be helped to recognize and examine their own prejudices.

The building of skills by which the democratic process is carried on is fundamental to any real progress in democratic living. Opportunities for this occur throughout the day in every classroom. The quality of group planning, group decisions, and consideration of the minority opinion help determine the intercultural atmosphere of the classroom. Children should learn to interpret democracy in terms of the rights and responsibilities of each member of each group in the community.

This growth becomes easier and more permanent as the teacher succeeds in enlisting the cooperation of all groups of the community, through personal contact, parent-teacher associations, and community councils, in working cooperatively for a better community.

Learning to Be Good Citizens in the Home, School, and Community

It is worth while to restate that the purpose of education in a democratic society is to promote the growth of the personality of the child toward goals that are socially acceptable, so that he will become a happy and useful law-abiding citizen in our democratic scheme of living.

The terms "character" and "citizenship" are not synonymous from a terminal viewpoint. An indi-

vidual may have a good character and still may not perform all of his duties as a good citizen. Conversely, it is not likely that a person with a poor character will make much of a contribution to citizenship. However, from an initial viewpoint and to the extent that the techniques involved in training for character are the same as those for citizenship, both terms can be used synonymously by the elementary school.

It is generally agreed that character, home and community citizenship cannot be taught as a formalized subject. It is true that some of the mechanics of citizenship can be taught, such as voting, participating in civic affairs, interpretations of laws and ordinances; and information can be gathered from skill and content areas of subject matter. However, training in character and citizenship must be derived from practice, and from precepts and examples established in the everyday processes of school living.

It is generally agreed that the elementary school represents the most fruitful time for helping children to become constructive citizens and to fortify strength of character. It is a well-known fact that the majority of hardened criminals have developed their criminal tendencies early in life and that many of them could have been helped. Upon the shoulders of the elementary teachers falls a large share of the responsibility of combating crime and delinquency.

I. SUGGESTIONS FOR THE ELEMENTARY TEACHER IN CLASSROOM LIVING AND MANAGEMENT FOR CHARACTER AND HOME AND COMMUNITY CITIZENSHIP TRAINING FOLLOW:

1. Democracy must be practiced in the classroom. The rights and duties of all citizens must be maintained. Only when rights conflict, must the teacher interfere. No one can be a good citizen or have a good character unless he knows and understands his duties, is responsible for the performance of them, and learns to feel that he is individually responsible for his own acts. The teacher must see to it that the group learns how to plan, apportion group duties and identify individual duties, and then she should insist calmly and firmly that each child perform his rightful duties.
2. Sarcasm, impatience, and lack of sympathy can very quickly creep into a child's behavior. A teacher must periodically analyze her own approach and listen to her own "voice tones" to make sure that such traits in her own person-

ality do not leave damaging effects of lasting nature.

3. Honesty, impartiality, and respect on the part of the teacher exercise a tremendous force upon the pupils of her class. A child derives no pleasure in causing harm or unhappiness to a person that he believes to be square and decent.
4. Love for children is a prerequisite for teachers. It generally follows that children will love and respect the teacher when she loves and respects them. Building respect for the teacher builds respect for parents and other persons in authority.
5. Discipline is necessary in a complicated civilization but discipline must not be confused with punishment. Discipline comes from within, punishment from without. Punishment administered unwisely or unjustly may cause a child to rebel or to become delinquent. Discipline must come from within and from a desire on the part of the child to do the right thing. The teacher should be firm and consistent in her handling of situations, rather than merely "strict."
6. A high morale in the school must be maintained. An interest in a clean school stimulates group pride. A generally high plane of conduct in the school stimulates a tremendous force and power of group approval. Low standards in the school will lower the morale, increase the number of individual problems, and cause antisocial conduct.
7. Truancy may be caused by an uninteresting classroom program. When children are interested in school and work because they see immediate values to themselves, they come happily and voluntarily to school. Much delinquency begins with truancy.
8. The emotional needs of children must be met if they are to become good citizens. The children must have security—they desire to be noticed, to be loved, to be wanted, and to be successful in something. Security, after all, has very little to do with money. The resourceful teacher must employ every method to have each child participate and achieve on his own level. She must compensate for emotional blocks which often occur when a child does not have adequate clothing, or has physical defects, or has trouble in the home. When emotional needs are not met, compensating behavior patterns are built up.

II. BUILDING GOOD FAMILY RELATIONSHIPS THROUGH SCHOOL ACTIVITIES

The emotional set and attitudes toward living together at home, at school, and on the playground are established in the early years of a child's life.

Conditions exist in the family and society today which make it more important than ever for educators at every level to recognize that the aim of all education is essentially for living and that a large share of living goes on in the home. Only under ideal conditions can we expect all of our homes to provide for basic emotional needs, such as a feeling of success in accomplishment, a sense of belonging, and an assurance that one is loved for oneself. Teachers through child study should determine to what extent the home functions in this respect and be ready to supplement the home. Family life experiences of various kinds contribute to the child's emotional development.

In some places grade teachers are planning with the home economics teachers to the end that units of study may include experiences that bear directly on home living. Sometimes a cooking lesson or sewing lesson is indicated and the grade teacher, using the consultive services of the home economics teacher, plans with the children how they can prepare some of the foods they have learned about or do the mending called for in their unit of study. One of our cities reports that in a cooking lesson seventh and eighth grade girls are used in the foods room, one at each table for four, to assist the children and prevent accidents.

The teacher needs to know that certain beliefs and practices on the part of family members tend to strengthen family life.

1. In order to be democratic the family must be cooperative.

One way to develop cooperative impulses in the family group is to have frequent discussions in which each member is expected to participate according to his age and ability. This makes for unity and loyalty and understanding of the many problems which a family must tackle. In the classroom such activities as free discussions, teacher-pupil planning, and committee work help pupils to be democratic members of their own families.

Through these family discussions a code of behavior can be developed and the members

will tend to help each other hold to it. This procedure can be duplicated in the classroom.

The home contributes to the individual's sense of security and helps him to build self-confidence and the ability to make the necessary day-to-day adjusting. Even the most underprivileged home may have this function. The school serves this purpose when it recognizes children as individuals and helps them to be their best selves.

It is desirable for the family to cultivate distinctive family customs which enrich the traditions of the home—the birthday cake, the Christmas tree found in the woods where there is need of thinning out trees (by permission of the owner) and conveyed home by the family, the trimming of the tree at a certain time as a family celebration. The "family log,"¹ a record of important events which take place in the family—record of birth dates, death dates, educational experiences, work experiences, travel, trips, and the like—is a unifying practice. This experience could be initiated in the classroom.

In these early years children should learn to work with their hands and to enjoy it. This refers not only to creative work, such as clay modeling and finger painting, but to house-keeping jobs, such as dusting, watering plants, and sweeping floors. Children like to do these things when tasks are self-assumed, as they will be under proper teacher guidance.

2. The courses of study in the various fields are set up in this bulletin to include many opportunities for teaching family life. These emphases and activities should:

Help the child to feel more secure in living at home and in the community through school experiences related to home and community life.

Create greater interest and willingness to share in the responsibilities and privileges of the home.

Help the child to acquire skills in relation to common household activities commensurate with his age, including care of younger brothers and sisters.

Encourage the child to make every effort to get along with family, neighbors, and friends, through practicing better social responses.

Help the child gain in self-helpfulness in such areas of living as personal care, care of pos-

¹See "The Family Log." Mail orders to E. D. Clapp, Treasurer, c/o San Diego Trust and Savings Bank, San Diego 12, California.

sessions, such as books, toys, etc., and to respect the rights and property of other family members.

Make the child aware of the opportunities for recreation which are possible within the home.

Help the child understand and appreciate his home—what makes it a satisfying, comfortable, happy place.

Help the child to improve and beautify his home surroundings, both inside and outside, and to develop an interest in other houses in the community.

Help the child develop a feeling of responsibility as to the proper care of his clothing.

Help the child understand his own food needs and to increase his knowledge of social situations concerned with eating.

Help the child to learn to eat many kinds of foods and to develop better health habits.

Help the child to develop an understanding of some of the problems of the consumer and to gain in the ability to spend money wisely.

Help the child to develop habits of carefulness and obedience to rules of safety which will protect health and reduce number of accidents in the home.

Help the child to develop a concept of the advances made in civilization with particular emphasis on early homes of our country and how they have influenced our own home and family life today.

Give through these socializing experiences more meaning to social studies, art, literature, arithmetic, science, health and hygiene.

III. DEVELOPING DESIRABLE CONDUCT AT SCHOOL

The teacher affects the orientation of the home and community in relation to the school by the way she lives with children. Her philosophy determines the community attitude, the position that the community takes in regard to the school. In order to live in harmony with others a person must constantly evaluate himself. This is true of the teacher as well as of the other members of the community. The ability to view oneself objectively and with true humility is an essential characteristic of a mature person. Through self-evaluation the teacher understands the necessity for overcoming personal weaknesses. If the teacher is quiet in manner, gentle in contacts with boys and girls, fair, understanding,

and firm, she will win the respect of pupils and parents.

Parents will accept corrections of their children and assignments of work, unless they feel that the children are being treated unfairly. When parents object to a teacher's actions, it indicates a lack of understanding and rapport between the teacher and the parents. The teacher may feel that the parents are being unreasonable. She should not resent the attitude of parents, but should try to do something to improve it, perhaps through improvement in her own attitudes. To this end the teacher should utilize the customary contacts between the home and the school.

When a parent comes to the school and complains, he feels that his child has been treated unfairly. It is the teacher's responsibility to try to change the parent's point of view, or to re-evaluate her own classroom procedures and relationships. Sometimes concessions on the part of both parents and teacher are necessary. A teacher who "blusters" is usually in the wrong. One of the most helpful things a teacher can do is to call in a pleasant and social way at the home of the pupil and while there endeavor to learn the child's ambitions, plans, and problems, and to understand the attitude of the parents. This is one way to get at the root of trouble and thus for a teacher to get better results from the pupil and secure a finer spirit of helpfulness from the parents.

Conduct of pupils in the classroom, auditorium, library, halls, stairs, lavatories, cafeteria, and playground should be a matter of school policy. These policies should be formulated by pupils and teachers together, and then all should conform to them until such time as they are cooperatively revised. These policies are not the same as a "set of rules." Consideration for others should be the guiding motive for all children regardless of the situation. They should learn that it is poor manners to attract undue attention to themselves or to bring unfair criticism upon their teachers or school. Effective "discipline" in the end comes when pupils accept responsibility for their own conduct.

One of the best ways to promote good social behaviors is to have pupil participation in carrying out routine duties of the school. A principal or teacher probably can administer a school more efficiently than pupils, but such administration does not represent growth to pupils, who learn to do by doing. Pupils may learn much through setting up efficient procedures and assuming responsibility for distributing and collecting daily attendance forms, ringing bells, taking milk orders, delivering milk,

working in cafeteria, arranging bulletin boards, caring for property, furniture, rooms, industrial arts materials, tools and work places, and audio-visual materials, such as pictures, books, maps, globes, charts, projectors, slides, films, radios, phonographs, and records. They will learn much from answering the telephone, operating duplicating machines, functioning as building monitors, serving in kindergartens and primary rooms to assist small children with wraps, and in promoting the work of student government organizations. None of these should be done, however, on an "errand boy" basis, but rather on the basis of the assumption of real responsibility as part of a cooperative plan.

Safety Education

Children should learn to be careful as to safety, but they should not be taught to be afraid or "fearful." Safety education, as to direct and planned instruction, is included in the section on Health, Chapter VI, of this bulletin. There are also references, from time to time, in all other sections when such ideas and activities are appropriate to the matter at hand. Safety instruction should be taught wherever and whenever appropriate.

In general, the teacher decides on the specific objectives for teaching safety within her own classroom. She determines individual class and community needs, and fits her instruction into the classroom program.

While the principal may offer suggestions and provide materials of instruction, it is the teacher's responsibility to become acquainted with successful instructional practices, available material, and sources of assistance.

Contributions of the teacher to faculty planning in safety are an important function of the teacher. Special committees on playground safety, safety habits, coordination with the community are appropriate avenues of participation for the teacher.

OPPORTUNITIES FOR TEACHING SAFETY

Experiences of children are extremely varied. Practically all of these experiences offer opportunities for safety education. Some of them are seasonal entirely; some are always present; some suggest special safety measures because of the nature of the activity involved.

It is most important that every regular curricular opportunity be used to emphasize constructively the safety aspects of subject matter presentations.

1. The seasons offer opportunities

- a. Fall
 - Hikes Starting fires
 - Picnics Playground activities
 - Football Roller skating
 - Burning leaves Halloween
- b. Winter
 - Coasting Icy streets
 - Ice skating Hitching rides
 - Snowballing Basketball
 - Skiing Roller skating
- c. Spring
 - Playground apparatus Roller skating
 - Baseball Hikes
 - Kites Rainy days
 - Bicycling Farm hazards
- d. Summer
 - Swimming and boating Poisonous plants and snakes
 - Travel Going barefoot
 - Fishing Camp safety
 - Sunburn Climbing

2. Special occasions offer opportunities

- a. Emergencies
 - Injuries in the classroom Hurricanes
 - Accidents on school property Floods
 - Fire in the neighborhood Explosions
 - Wrecks
- b. Holidays
 - Halloween Fourth of July
 - Christmas Victory celebrations
 - New Year's Vacations
 - April Fool's Day
- c. Special Events
 - Fire Prevention Week Celebrations
 - Clean-Up Week Local Safety Campaigns
 - Church, Y.M.C.A. Scouting
 - and Red Cross, etc. Excursions; safe practices; codes
 - American Education Week

3. Regular subject matter channels offer opportunities

Subject	Topic	Integration with Safety
Social Studies	Community Helpers	Activities promoting safety: fireman, patrolman, traffic officer
	Community Needs:	Safe and poisonous foods: canning and preserving
	Food	Cleanliness in preparation of foods
	Clothing	Types of clothing safe (a) for work, (b) for play or athletics
		Dangers of careless dressing (untied shoe laces)
		Dangers of high heels
	Shelter	Home safety problems
		Building "operations"

<i>Subject</i>	<i>Topic</i>	<i>Integration with Safety</i>	<i>Subject</i>	<i>Topic</i>	<i>Integration with Safety</i>
Social Studies (cont'd)	Transportation	Precautions taken to protect passengers: railroad, bus, trolley, air, marine Safety devices: parachute, life boat, beacons, brakes, etc.	Arithmetic	Statistics	Basic for (a) discussion, (b) promotion of a desirable safety activity, (c) necessary regulation, (d) removal of a hazard
	Communication	Value of being able to report an emergency quickly Danger of fallen wires		Graphs	Method of presenting accident statistics
	Industries:			Problems	Involving safety data
	Lumbering	Forest fires Climbing trees	Health and Physical Education	Better Living	Relation of following to safety: Strength, physical fitness, fatigue, clothing Medicine cabinets; first aid; prevention of infection Amount of exercise
	Fishing	Fish hooks Coast Guard activities			
	Manufacturing	Protective (a) clothing, (b) devices on machines, (c) safety glasses—"goggles"			
	Agriculture	Care and use of machinery Safety around animals	Arts	Paint or crayon Projects Construction	Illustrations for creative work: Posters; maps; scenery for dramatics Safety signs for school, road, or home Dioramas to illustrate safe and unsafe areas or practices Equipment for safety story plays or dramatizations of safety experiences Singing or creating safety songs
	Commerce	Proper handling of heavy and awkward materials Trucking regulations			
	Mining	Danger of (a) blasting caps, (b) gas, (c) falls, (d) combustion hazards Mine safety appliances			
	City Government	City departments promoting safety; ordinances; traffic court Traffic engineering			
Elementary Science	Animals	How mother animals teach young to protect themselves			
	Chemicals	Methods of fire fighting; fire extinguishers Care of chemical sets			
	Electricity	Dangers of fire; how to prevent and extinguish fires caused by electricity			
	Temperature	Relation of temperature to accidents; extreme heat; extreme cold; ice; blinding rain; fog; snow			
Language	Oral Expression	Radio scripts, plays, jingles, slogans Practice in issuing warnings or giving directions Practice in use of telephone Contributions to home-room or assembly programs Practice in presenting committee reports Discussions about accidents and their prevention			
	Written Expression	Creative work with a safety theme; booklets Letters to obtain information Editorials with a safety theme Preparation of codes; regulations; reports			
Reading	Informational	Basic material for all types of safety activities Practice in reading signs and warnings Develop own safety reading materials			

The Classroom Teacher Usually Assumes Responsibility for Initiating These Activities¹:

An asterisk (*) indicates high frequency of mention among those who filled out details concerning avenues of participation.

Includes safety instruction wherever and whenever appropriate*

Sponsors safety patrol*

Sponsors safety clubs*

Uses assemblies for safety presentation, including dramatization, citations for safety, etc.*

Provides pupil leaders in gymnasium, play, classrooms*

Provides for and properly conducts Fire Drills*

Stimulates preparation of safety posters and safety demonstrations*

Provides opportunity for the preparation of classroom safety codes*

Encourages safety "talks" by pupils*

Conducts safety inspections*

Uses safety clippings from newspapers

Conducts tours and excursions

Develops radio scripts on safety

Provides opportunity for tours for safety

Stimulates safety stories in class news sheet

Provides opportunity for construction activities

Plans, especially for beginners, safe routes to school

¹See Chapter VI, for Safety Course of Study and for Bibliography.

Suggests safety letters
Organizes "brother and sister" or "buddy" safety system for special events
Aids in study of plant (e.g., poison ivy) recognition

Conducts "Hazard Hunt"
Makes own safety pictures: still, motion, slides
Develops safety songs, slogans, poems, as class projects

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SOURCES OF PAMPHLETS

1. ASSOCIATION FOR CHILDHOOD EDUCATION
1201 Sixteenth Street, N. W.
Washington, D. C.
2. FEDERAL SECURITY AGENCY
UNITED STATES OFFICE OF EDUCATION
U. S. Government Printing Office
Washington, D. C.
3. ILLUMINATING ENGINEERING SOCIETY
51 Madison Avenue
New York City
4. NATIONAL EDUCATION ASSOCIATION
1201 Sixteenth Street, N. W.
Washington, D. C.

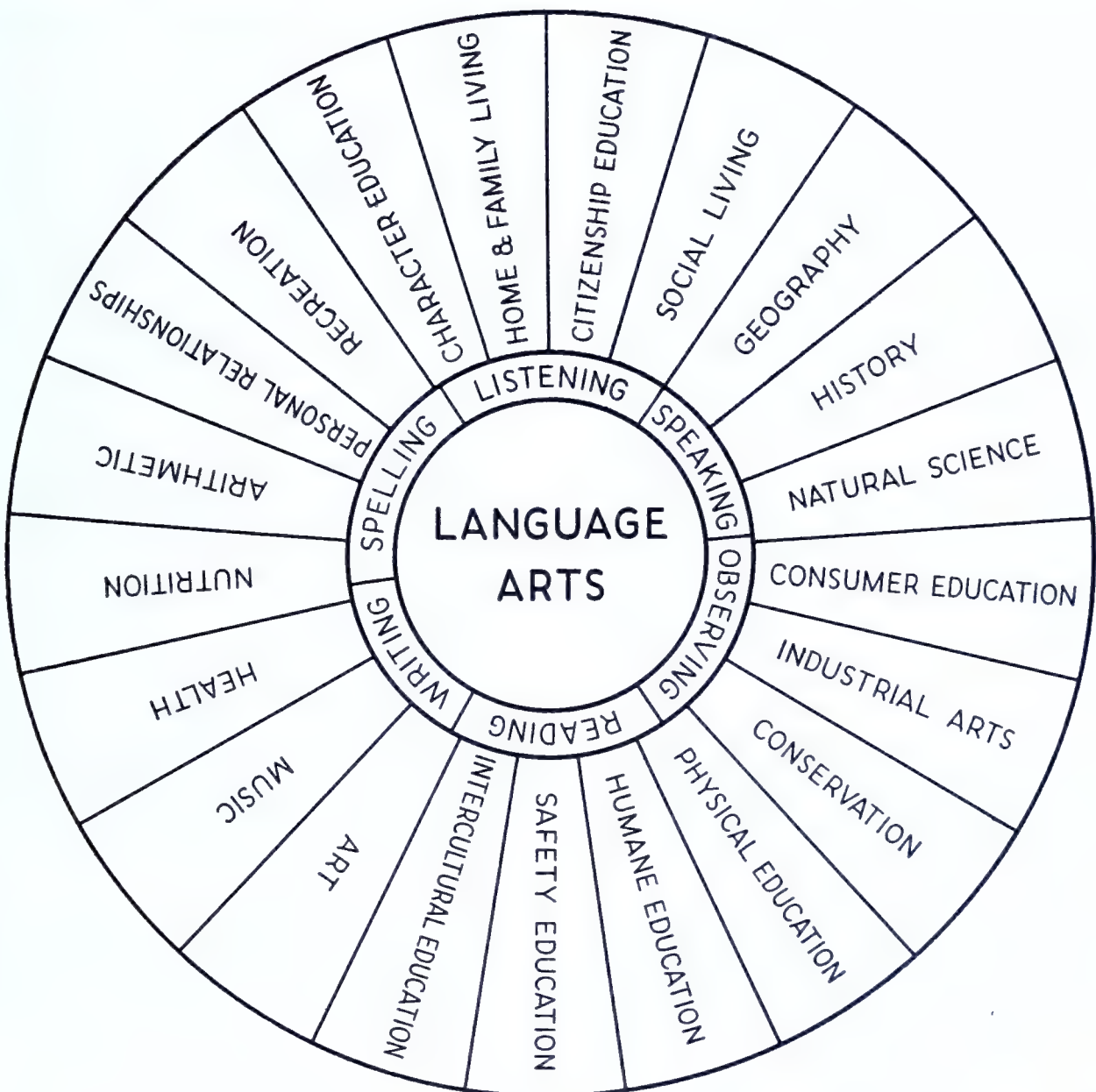
NOTES FOR BULLETIN 233-C

CHAPTER III

Language Arts

GENERAL INTRODUCTION

THE ABILITY to receive and to transmit ideas is fundamental to growth in all curricular areas. Listening, observing, speaking, reading, and writing “center” the curriculum and may be likened to an interweaving network which penetrates and binds all elements together through its channel of communication within and among all phases. A planned program of sequential instruction is needed to direct and develop the ability to receive and to express ideas, but the evaluation of such program cannot be limited to the language arts program alone. Rather, the consideration must be in terms of the functioning and the performance of the language arts as a vital contribution to the whole curriculum.



Language is the tool of communication. Its skills are listening, observing, speaking, reading, and writing. Child development research has indicated that growth in language ability is both orderly and cumulative. Through actively participating, listening, and observing, children develop the concepts which give meaning to oral language.

The development of a comprehension vocabulary is the first sequence in language development. Growth in the ability of the young child to express himself in oral language will depend upon the depth and breadth of experience and his need for expression. As concepts are developed, he first expresses ideas in single words, then in word combinations, and finally in sentences. When the average child enters school he has approximately a 2500-word vocabulary and expresses himself in sentences with a minimum of from five to six words.

The second sequence, oral language, in turn, forms the basis for development of ability in reading and writing. This speech development is closely related to readiness for reading instruction. Accurate auditory-discrimination, together with the ability to associate the correct meaning with the word-sound, is essential to visual-discrimination. If the child is to read a sentence, he must first be able to express himself in a sentence of comparable length. The extent of his ability to deal with concepts in oral language will condition his success in dealing with them in reading situations.

Reading is the third in sequence in language development. At this level, language horizons broaden rapidly. Reading and oral language are interdependent and each stimulates growth in the other. As a consequence, new interests appear and needs expand. The child has more experiences to participate in, to talk about, to listen to, and to read about. His interests grow as he tends toward a wider acquaintance with more people and a wider exploration of his community both in real and vicarious situations. His concepts of space, time, size, and money develop. His speech reflects his social, emotional, and intellectual growth. Physical development aids the ability to follow interests. His achievement in and his capacity for language grow to the extent that he has a need for and a desire to express himself.

Writing, the fourth sequence in language development, is the expression of thought through the media of legible handwriting, correct spelling, and correct usage. Growth in ability in writing will be largely determined by the need for expression and the depth or breadth of experience preceding it. Participating, listening, observing, thinking, speaking, and reading form the meaningful basis of logical organization of thought expressed clearly, effectively, and concisely.

Orderly and cumulative development of language competence proceeds normally with proper teacher-pupil guidance. Difficulties arise when an attempt is made to teach the child to talk before he can listen; to teach him to read before he can talk; or to teach him to write or spell before he can read.

This sequence of individual growth in language is a useful guide in all school activities at all levels. The cumulative character of language growth points to the soundness and economy of the unified approach in teaching the language arts.

HOW TO USE THIS CHAPTER

Every teacher should know this whole chapter. There are, of course, some pages that will be used at some grade levels more than others. Nevertheless groups of teachers should study and discuss these items together so that each may see how and where the work she does fits into the growth patterns of the children.

The ideas included in this chapter coordinate with the plans for units in Chapter IV on the Social Living Area. The activities suggested are also basically the same as those in Chapters V and IX, so that changes will be effective in several fields simultaneously.

A general bibliography which all teachers will find useful is given on page 117. Chapter XI on Audio-Visual Aids and the last section of this chapter on the library are closely related to the Language Arts. Material on equipment is given in the Appendix.

It is suggested that each faculty or district work on several of the aspects of the following by means of:

- Faculty meeting, led by superintendent, assistant superintendent, supervisor, director, curriculum coordinator, building principal, or key teachers
- District meetings or meetings which include several districts
- Planned observations by classroom teachers in their own or other districts
- Workshops, non-credit
- Planned off-campus courses or workshops for college credit
- Experimentation, accompanied by constant evaluation and necessary replanning

Activities for Teacher Groups

1. It is suggested that the teachers of each faculty or district read and discuss this chapter together and decide what changes, if any, are involved for them, and how they will go about the whole problem of change. Problems of scheduling, books and supplies, grouping, integration with the content fields, evaluation, and others will be involved.
2. Discuss the growth levels which might generally be expected of the different age levels in such activities as are listed on pages 83 and 100.

3. Study the charts on pages 71 to 74 and watch for classroom examples which can be used as illustrative material for subsequent discussions.

Over and Above What Has Usually Been Required of Good Teachers

The successful use of this chapter will require particularly that teachers know how to:

- Use a radio and a record player as instruments of teaching
- Conduct choral reading
- Use a classroom library as an instrument of teaching
- Analyze and correct simple speech problems
- Manage flexible grouping
- Use original dramatization and puppetry as instruments of teaching
- Encourage children to evaluate their own progress and take pride in maintaining standards proper to their maturity levels
- Teach the use of reference books such as encyclopedias and dictionaries
- Make informal inventories of reading levels
- Administer standardized reading tests, diagnose them, and make proper teaching plans from resulting data
- Make poetry enjoyable and loved

The successful use of this chapter will require particularly that teachers know:

- Children's literature—poems, books, and stories, old and new
- Phonetics and their proper use
- The individual children and the growth and development patterns of the various maturity levels

GUIDE FOR THE INTERPRETATION OF THE FOLLOWING CHARTS

The characteristics listed on the following charts are intended to show the sequences of behavior rather than rigid standards of expectancy. The levels are location points which give us our bearings. They

suggest what precedes and the kind of behavior that is likely to follow. They should be considered as GUIDANCE CHARTS rather than RATING CHARTS.

The teacher or parent who reads the chart should not say that the child ought to be at this particular level, because he has reached that year in his life age. The child may be older or younger in one phase of development than in another. For instance, a child may be retarded in skeletal growth but accelerated in neuromuscular growth; his eyes may be slow in attaining adult size, shape, and efficiency, while his speech may have reached full maturity.

It is more important to find the level which describes the stage of maturity that the child has actually attained. Comparison of any child with the others of his total age group helps in planning his educational guidance in order to protect him from demands to which he is not ready to respond satisfactorily, and to provide opportunities suited to the development of his various structures and abilities. It is not desirable or necessary that a child conform in every respect to the average of his age level.

The Five- to Eight-Year-Olds

The characteristics listed indicate general trends in development that should be recognized by the child's teachers and parents in management and teaching. Some of the most obvious characteristics in the growth pattern of the five- to eight-year-old children are:

- An abundant supply of energy
- Comparatively slow growth in height and weight
- Development of large fundamental muscles, but lack of coordination in the finer muscles
- Replacement of baby teeth by permanent teeth
- Maturation of vision
- Broadening of interests beyond the self
- Widening of social contacts beyond the family
- Development of language skills

Since children of this age range have had little experience in sitting still for any length of time, they cannot be expected to do so upon entering school. Programs should be planned for them which call for action and frequent change in work and play.

This is the period where neuromuscular coordinations are being developed. It is important that children have much opportunity for activities in-

volving the use of large muscles. Pencils, crayons, and other tools used by the child, should be large enough to encourage work for large general effects, rather than fine, intricate detail. Work with cutting, weaving, and sewing is not suitable to this age.

Because the baby teeth are being replaced and all bones are hardening, an adequate diet with all the essentials for body building and energy is of prime importance.

The eyes of many children from six to eight are not ready to make the fine discriminations for reading and some other types of school work. A visual examination by a competent vision specialist may prevent the rise of visual defects, reading difficulties, and emotional upsets.

It is during this period, when children's social contacts are being more widely extended beyond the home and family, that the skills of living, working, and playing cooperatively should be consciously taught by teachers and parents. Situations should be provided for the sharing of materials, tools, toys, and ideas, and for planning and acting together. The development of acceptable manners and social conduct in terms of child standards, should receive emphasis during this time.

Rapid language development is to be noted with the vocabulary increasing from approximately 2500 to 10,000 words. The six-, seven-, and eight-year-olds' vocabulary becomes enriched and broadened as wider experience with real and interesting things adds to their store of meanings.

What happens when the child and the language arts program meet is an important consideration to his teacher. Although she knows that the child will think and express his thoughts without her guidance, she also knows that the quality and effectiveness of the expression will be influenced greatly by the organization and materials of the planned language arts program.

The planning of a stimulating environment to direct growth in language arts skills must consider the sequences of both child and language growth. If the sequences of language arts are geared harmoniously with the sequences for child development, satisfying growth is evident and frustration is prevented.

The Nine-, Ten-, and Eleven-Year-Olds

Children during their ninth, tenth, and eleventh years continue the same general pattern of physical growth, but noticeable changes in mental and so-

(continued on page 74)

CHARACTERISTICS AND INTERESTS OF CHILDREN AND THEIR IMPLICATIONS FOR LANGUAGE ARTS

What Children Are Like

What They Can Do With Language

THE FIVE-YEAR-OLD

1. Extremely active; tires easily
2. Needs frequent short rest periods during the day
3. Needs 11 to 12 hours of sleep at night
4. Needs much opportunity for large-muscle development
5. Unequal to small-muscle control required in writing, reading, weaving, sewing, etc.
6. Uses feet alternately in skipping and descending stairs
7. May make unreliable statements through lack of command of language
8. Can narrate a complete occurrence; repeat a familiar story
9. Girls have, in general, greater language facility than boys
10. Desires adult approval more than approval of age mates
11. Is highly dramatic and imitative in play
12. Likes to feed and care for animals; play house; ride a tricycle; play surprise jokes; build with blocks; copy designs, etc.
13. Enjoys listening to stories and poems of animals that behave like human beings; of children at play; of Christmas and other holidays
14. Likes to hear the same story over and over

1. Listens attentively to content dramatically presented or illustrated with models and pictures
2. Enjoys hearing stories of animals, particularly with repetition
3. May carry on conversation over the telephone
4. May reproduce nursery rhymes, songs, and short poems
5. May experience the following difficulties with speech: substitute f for th, t for k, d for g, may have trouble with sibilants (s, z, sh, ch, j) and any two or three consonant combinations (fl, pl, pr, st, str)
6. Shows desire to look at books, pictures, and bulletin boards
7. Looks at picture books and notes details
8. Selects stories and songs he wants from books familiar to him
9. May print name in large capital letters
10. Likes to copy simple forms

THE SIX-YEAR-OLD

1. Still extremely active; fatigues easily
2. Needs 11 to 12 hours of sleep plus frequent short rest periods during the day
3. Development of small muscles still incomplete
4. Seldom reaches readiness for reading before a mental age of 6½ years
5. Ignores sex, race, and social status in work and play
6. Needs orderly and consistent routine at home and school
7. Shifts quickly to opposite extremes in behavior
8. Learns through participation and activity, not by rote
9. Continues to express self in spontaneous dramatization and imitation
10. Needs to be taught to take turns
11. Does not cooperate well in organized games; prefers tag, ball-bouncing, hide and seek, etc.
12. Enjoys stories, poems, and comics of animals, birds, little children, nature, and airplanes

1. Begins to keep to a topic
2. Describes a picture instead of enumerating objects within a picture
3. Word meanings are defined in terms of their use in relation to an object
4. Indicates parts missing from incomplete pictures
5. Reads experience charts
6. Reads labels in functional situations: "scissors," "crayons," etc.
7. Acquires readiness and a desire for writing
8. Develops sentence sense by observing teacher write at group dictation
9. May print name in capital and small letters
10. Associates certain words with objects and pictures of objects when they apply to personal experiences
11. Begins to have more confidence in articulation of sounds but inaccuracies still exist

CHARACTERISTICS AND INTERESTS OF CHILDREN AND THEIR IMPLICATIONS FOR LANGUAGE ARTS

What Children Are Like

What They Can Do With Language

THE SEVEN-YEAR-OLD

1. Continues to be vigorous in physical behavior
2. Needs periods of rest and relaxation
3. Requires 10 to 11 hours of sleep
4. Development of small muscles not completed for all
5. Spends much time in repeating stunts and skills
6. Tends to periods of calmness and self-absorption
7. Has usually ceased to have tantrums
8. Is self-critical, erases frequently, needs encouragement
9. Seeks approval of teacher in preference to that of classmates
10. Is beginning to develop concepts of time and distance
11. Delights in listening and reading stories, poems, and comics of animals, magic and fairy tales
12. Enjoys wild running and jumping games

1. Can relate events in sequence
2. Can recognize double meanings of words
3. Oral pattern of speech begins to conform to accepted grammatical usage
4. Can recognize slight as well as marked differences in word forms
5. Detects words that begin with the same sound
6. Shows interest in learning to read from books
7. Shows definite progress in attacking new words
8. Reads first reader material with comprehension
9. Can write all letters of the alphabet from memory
10. Can copy in manuscript-writing short stories composed by group
11. Is beginning to write sentences for self
12. Is beginning to learn correct punctuation and capitalization
13. Has established control of acceptable speech sounds

THE EIGHT-YEAR-OLD

1. Continues to show mounting physical energy and activity
2. Small muscles are now ready for activities, such as weaving, sewing, and writing
3. Eyes usually ready for rapid reading
4. Begins to read faster silently than orally
5. Plays and works with groups satisfactorily, but is not ready for clubs
6. Tends toward realism in his thinking; disavows Santa Claus
7. Is able to contrast past and present, and is curious about people of long ago
8. Begins to show interest in people and places beyond his immediate community
9. Still learns best by participation and activity, but can learn by rote
10. Delights in telling jokes and riddles
11. Still enjoys books about children, animals, and fairies, but shows an interest in books about people of far away and long ago
12. Continues to enjoy running, jumping, climbing, etc., but spends much time in looking at catalogs, adult magazines, comic books, and listening to radio programs of adventure, slap-stick comedy, mysteries, and quiz programs

1. Shows increasing independence in writing simple sentences
2. Copies simple passages and compositions, cooperatively developed
3. Knows and writes all the letters of the alphabet in order from memory
4. Rarely makes reversals in writing; unable to measure up to good intentions in neatness, modulation of size and alignment
5. Takes new pleasure in more rapid silent reading
6. Develops ability to analyze new words independently
7. Reads materials of first grade difficulty with ease, understanding and enjoyment; those of second and third, with comprehension, when guided
8. Uses table of contents
9. Increasing command of capitals and punctuation in group dictation and in personal writing

CHARACTERISTICS AND INTERESTS OF CHILDREN AND THEIR IMPLICATIONS FOR LANGUAGE ARTS

What Children Are Like

What They Can Do With Language

THE NINE-YEAR-OLD

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|--|--|
| <ol style="list-style-type: none"> 1. Skillful in motor performance and sustains speed for long intervals 2. Finds it difficult to settle down after recess or games because of intensity of interest and effort 3. Often overstimulated if he does not get enough sleep at night 4. Likely to be careless in dress and appearance, must be urged to wash face, brush teeth, etc. 5. Frequently more interested in his playmates than his family 6. Accepts responsibility in family 7. Antagonistic toward opposite sex 8. Ready for perfecting skills in arithmetic, reading, spelling, and handwriting 9. Bases much of his reasoning on observation 10. Likes to build caves, go to brooks, visit parks, zoos, airports, gather nuts, construct cabins, make campfires, skate, and has a passion for comics 11. Shows collector's interest in stamps, Army and Navy insignia, ranks of officers, types of airplanes, flags, movie actors, pictures, etc. 12. Enjoys Wild West stories, fairy tales, adventure, and increasing interest in books containing factual information | <ol style="list-style-type: none"> 1. Participates freely in discussion; expresses and defends his own opinion 2. Oral language approaches adult level of grammatical usage 3. Shows independence in attacking new words 4. Reads materials with comprehension that compare in difficulty with second, third, and fourth readers 5. Uses table of contents, index, glossary, dictionary, telephone book, catalog, encyclopedia, and poetry anthology 6. Gains rapidly in rate of silent reading 7. Composes short social notes and business letters 8. Assumes responsibility for punctuation and capitalization in personal writing |
|--|--|

THE TEN-YEAR-OLD

- | | |
|---|---|
| <ol style="list-style-type: none"> 1. Has usually attained sufficient neuromuscular coordination for pen and ink writing 2. Plays in larger number of organized games and shows loyalty to his team 3. May engage in silly antics, laughter, gossip, practical joking, and secret communications 4. Appreciates other peoples' points of view, even when not congenial to his own 5. Girls spend much time on clothes and arranging hair 6. May esteem club or "gang" more than his family 7. Feels the need of earning money to supply extra wants 8. Participates in discussion of social problems, such as labor, black markets, racial minorities, etc. 9. Shows definite signs of being a verbal or non-verbal learner 10. Has ardent desire for facts. Reads books of travel, biography, mechanics, radio, electricity, cooking, etc. 11. Enjoys games of one sex against the other and formal dancing situations 12. Listens avidly to radio programs of action, adventure, and real life, rather than to the fanciful or romantic | <ol style="list-style-type: none"> 1. Reads materials of third reader difficulty and below with ease, understanding and enjoyment; those of fourth and fifth with comprehension, when guided 2. Uses dictionary more systematically and begins to recognize diacritical marks 3. Consults table of contents, glossary and index of supplementary books 4. Consults encyclopedia of own accord 5. Learns how to skim for thought and search for the main idea of a story 6. Makes simple outlines with help 7. Begins to develop paragraph sense 8. Is developing ability to write brief stories, letters, thank-you notes, invitations, notices, and advertisements 9. Refinement in command of mechanics approaches adult level |
|---|---|

CHARACTERISTICS AND INTERESTS OF CHILDREN AND THEIR IMPLICATIONS FOR LANGUAGE ARTS

What Children Are Like

What They Can Do With Language

THE ELEVEN-YEAR-OLD

1. Personal hygiene habits well established, if training has been adequate
2. May show sudden and rapid growth, indicating approaching adolescence
3. Still strenuous in play; needs from 8 to 9 hours of sleep
4. Eye-hand coordination in manipulative skill approaches adult level
5. Begins to enjoy widening social contacts with guests in the house and visits with friends
6. Insists that dress, possessions, and actions be like those of friends
7. May work with others against an adult whom he considers unjust
8. Will probably react to an explanation of human reproduction with wider understanding and appreciation of it, if given properly
9. Compares favorably with adults in memorizing rote material
10. Shows progress in generalizing and making deductions, but is not ready for abstractions
11. Continues to enjoy books, radio programs, and movies of adventure, mystery, and shows increasing interest in those of science, nature, and home life
12. Likes to participate in community activities such as drives, surveys, campaigns

1. Reads materials of fourth reader difficulty and below with ease, understanding and enjoyment; those of fifth and sixth with comprehension, when guided
2. Reads silently at his level, approximately at adult speed
3. Uses reference books and library card catalog skillfully
4. Discusses current affairs with considerable understanding
5. Retains ideas well
6. Develops paragraphs; indents, uses a topic sentence and a last sentence, and keeps facts in order
7. Writes editorials, poetry, and diaries in response to the need for such materials in children's magazine and school paper, writes interesting letters
8. Writes with an approximate speed of 50 to 60 letters per minute with acceptable quality
9. Refinement of oral speech to level of acceptable adult patterns
10. Command of mechanics adequate for all written language needs

(Continued from page 70)

cial adjustment are evident. During this period we find:

- Continuation of extreme bodily activity
- Establishment of control over both large and small muscles
- Beginning of important physical and glandular changes
- Intensifying of search for facts and the satisfying of curiosity
- Desire to organize into clubs and "gangs"
- Antagonism between the sexes
- Increase of self-assertion and resistance to adult domination
- Enrichment of language

During the ninth, tenth, and eleventh years a steady gain in height and weight is to be expected. It is the period for stressing good posture because bones are hardening and muscles are developing in strength and control. Since small muscles are

usually developed by this time, handwriting can be made a school requirement and expression in sculpturing, drawing, painting, and handicrafts should be encouraged. With this increased muscle development comes much unintentional, noisy behavior.

For many children of this age group, it is the period of preadolescence. Though it is not obvious, changes in glandular secretions, bony structures, and body proportions are taking place. Physical maturity is more advanced among girls than boys. These children need the same consideration and sympathy as their adolescent brothers and sisters.

Intellectually, these children are in a period of rapid progress showing improvement in time and space concepts. The lengthening of the attention span, the increase of problem-solving ability, and the widening of reading interests are to be seen. Both purposeful and free reading should be encouraged. If reading difficulties exist, a special effort

should be made to correct them quickly so that search for facts will not be hampered. Because they are alert, active, and curious about so many things, these children benefit from guided excursions and community surveys.

It should be recognized that in addition to other types of curiosity, they are curious about sex. Appropriate information should be given and interpreted by parents or teacher rather than left to others. If it has not been done previously, the "open door" for such discussion at all times should be established by parents and teachers. Appropriate information is that which answers the questions honestly, but is limited to that which the child can understand. Complete physical and psychological information is inadvisable at this time. Since readiness for sex instruction is an individual matter, it is not presented for group discussion. Rather, it will be given in private conferences.

Children of this age show an increasing readiness

to organize into groups and to play games according to the rule. For many, it is the "gang age." The time is ripe for teaching the importance of being a good sport and working for the good of the team rather than for oneself. In their group activities, boys prefer boys, and girls prefer girls, to the point of antagonism. This sometimes makes management of the groups difficult, but should be accepted by adults as a temporary phase of growth.

Guidance of boys and girls of this age group is made especially difficult by their growing preference for the company and opinions of persons of their own age and group rather than those of adults, including their parents and teachers. Frequently, they show open resistance to adult domination. It is this aspect of development that helps to make the eleventh year the greatest in juvenile delinquency. Strong adult control, tempered by patience and understanding, and accompanied by respect for the growing individuality of the young person, will do much to reduce antisocial tendencies.

LISTENING

There was a time when most teaching was done by speaking, and much good learning came through listening and thinking. Schools today are criticized because they put too much emphasis—too much faith—in reading as *the* means of educating people for living in a world where hearing is on a par, at least, with seeing. Learning may come from listening, just as it comes from reading. In fact, listening is to speaking as reading is to writing. In his adjustments to life, a child ordinarily experiences, feels, listens, sees, thinks, speaks, reads, and writes.

Just as a child cannot learn through reading if his vision is poor, so a child cannot learn through listening if his hearing is poor. "Can each of these children hear?" the modern teacher wonders at the same time she wonders about his ability to see. (See Chapter VI.) If a child does not hear effectively, the modern teacher does what she can to improve his hearing, through the use of school and community services and classroom seating. Bulletin 421, *Meeting the Needs of the Acoustically Handicapped*, is available upon request from the Department of Public Instruction.

But hearing is not listening—just as seeing is not reading. A child may see the symbols on a page, yet not read; a child may hear what the teacher says,

yet not listen. *Our job is to teach children to listen: purposefully, accurately, critically, and responsively.*

Children learn to read by reading. Children learn to listen by listening. Just as reading is a skill to be taught in all the school's activities, so is listening a skill that should be taught all day long. We know now that reading literature differs from reading mathematics. Listening to a news-broadcast differs from listening to an orchestra—although the critical element may be common to both listenings.

A broad listening program will include at all grade levels all the experiences of the school day. Suggested activities growing out of the total program are listening to or participating in:

Reading of stories, poems, and plays

Choric reading

Reading of informational materials by teacher or child on related topics developed in the content fields

Exchanging personal knowledge

Telling of personal experiences

Reading of instructions, announcements, and directions

Reading of minutes in clubs and classes

Conversing over the telephone

Participating in rhythm and beauty in speech and music

Participating in radio, magnetic tape recorder activities, and the use of other audio-visual aids

Listening to the wind, surf, insects, whistles, etc.

Expressing emotions in speech and non-verbal sounds

Children learn to listen more attentively when they establish a purpose for listening in an atmosphere conducive to listening. The process of teaching listening usually involves teacher-pupil planning, listening, and evaluating.

The amount of purposeful planning preceding the listening will condition to a great degree that which is received. Prior to the listening to informational material, teacher and pupils formulate the questions or problems which may be answered through listening to the reading of the material. Following the listening, the discussion centers around these focal points and decision is then reached as to whether or not sufficient information has been received or whether further research is necessary. Concomitant learnings become evident as the children relate other knowledges they have just received or have been stimulated to recall. An outline of the focal points may later be the basis for a child's article in any of the social studies. This then involves written language. Thus listening, oral, and written language combine to develop new ideas, concepts, and understandings in a content area.

Children learn much through imitation of the teacher. Therefore, it is important that the teacher have, first, a pleasant well-modulated voice and, second, be a good listener. If the teacher listens attentively and courteously, the children are more likely to listen attentively and courteously. If the teacher listens and reacts to the sound of the fire whistle or to the sound of the wind in the chimney, the children too learn to listen, and to react. Life becomes richer for all of us, and becomes bearable for those of us who are blind, when we are sensitive to sounds.

On the primary level the child may be taught to listen to tone signals. Middle C on the piano may mean that it is time to put work materials away. He may be taught to respond to music or to hear and to interpret the sounds on the roof or in the woods. He may be taught to listen to sounds that indicate his teacher is busy and should not be inter-

rupted. When he hears the sounds that indicate mother is busy preparing food, he knows that is a good time for him to interest himself in some place other than the kitchen.

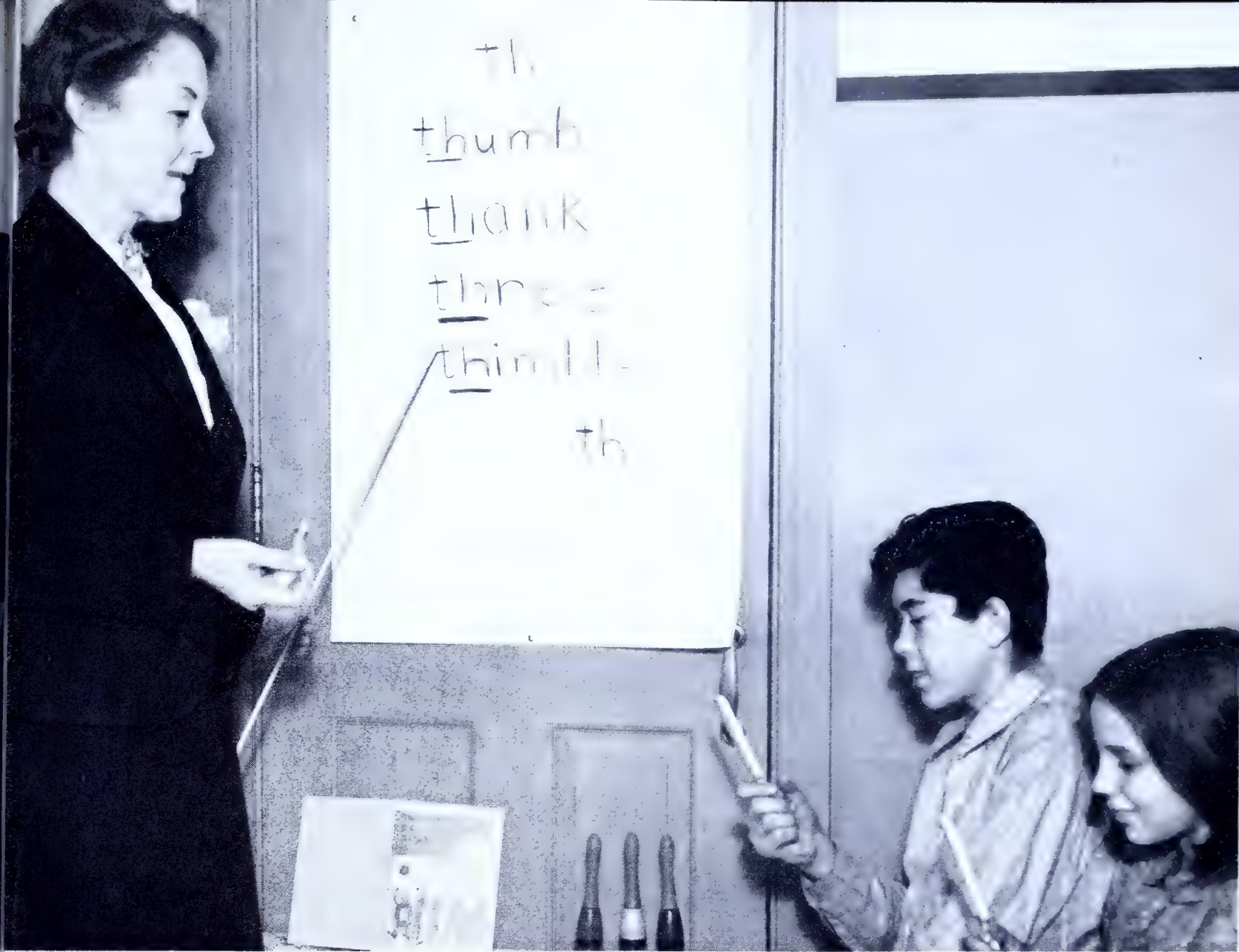
Children like "listening games" like "Johnny Said." Johnny may have said "robin." Marie repeats "robin" and adds another word. The third child repeats the two words in the proper order and adds his word. The object is to listen accurately, remember the proper sequence, and to pronounce distinctly. Progression comes through adding action to the verbal level. Johnny says, "Erase the third word in the first column, pronounce it, and rewrite it." Marie carries out that command and adds another. The commands may call for activity on the part of all the children.

A further illustration of planned purposeful listening in the field of music might well be the playing of Serge Prokofieff's orchestral fairy tale, "Peter and the Wolf." The record is played once so that children may list with the teacher's help, the characters: bird, duck, cat, grandfather, wolf, and others. The story and why the recording is to be heard are discussed together. The kinds of sounds these characters make are discussed. If a duck were frightened, would it quack the same as if it were contented? Does a contented duck quack faster than a frightened one? Is the tone higher or lower? Do ducks in Russia quack like ducks in America? What musical instrument would you use to portray a duck?

Then the class listens to the recording again. The immediate evaluation comes from listening to the children's comments, stimulated, in part, by the teacher's questions. The action and comment growing out of the experience are significant. Do they compare sounds they hear with sounds in the recording? Do they want to hear the recording played again?

Listening is not "something new." It is very old—so old that it has come to be taken for granted. Children may learn automatically to listen and to speak, but they can be *taught* to listen and to speak more effectively.

World distances are now only a matter of hours. Association with all nations is close. We need to teach listening on the "similarity" and "basic human emotion" level, for listening with discrimination is one tool of world peace.



Good Speech Helps Make Good Personality

SPEAKING

Speech is a tool, just as reading, writing, language, and arithmetic are tools. It must be taught directly.

The human anatomy has no specific organ for the purpose of speech. A number of organs each of which must first perform its life-preserving duty, are used simultaneously to utter speech sounds. Areas of the brain have been developed in man to coordinate these organs. If a physical or emotional disturbance occurs these organs will not function with the precision necessary to produce acceptable speech.

The first requisite of a speech program is an environmental condition which will assure the best emotional and physical adjustment.

Children have begun to talk when they enter school; they go on learning to talk, better or worse. The school owes them a continuous growth program of speech education that will insure their talking better.

The speech program must take the child where he is, then give him opportunities and experiences that will help him to develop into an individual who is utilizing all his capabilities.

Emotional Adjustment

The first requisites to emotional adjustment are healthy interpersonal relationships (pupil-teacher and pupil-pupil relationships). Suggestions to obtain these:

Maintain a free, disciplined classroom atmosphere, conducive to courteous spontaneous expression

Keep every speech situation pleasant

Do not force children to recite orally or confess guilt publicly

Use poems and games to motivate order and relaxation

Use discussion periods for problem and tension solving

Endeavor to understand the environmental problems of the community and home

Physical Adjustment

In order to speak well, man must have a healthy normal body or learn to compensate for abnormalities.

A speech program must include opportunities for the development of the body. These are a part of the Health and Physical Education Program as given in this bulletin.

It includes games to help:

Establish left or right dominance

Develop rhythm, relaxation, poise, posture, and confidence

Example Set by Teacher

The teacher is the key person in developing an atmosphere for speech improvement. The child's speech is no better than he has to make it. The teacher has the responsibility of:

Knowing and using the acceptable speech patterns

Setting standards of self-control, courtesy, good humor, and consistently good organization

Creating within the child a need for better speech and constant growth in speech patterns

The well-balanced program will provide definite activities to establish:

Ideas—A background that will give the child rich experiences and a need to express them

Organization—Vocabulary growth, the ability to organize his thoughts and a knowledge and use of the common courtesies expected in all types of oral communication

Discrimination—The power to listen discriminatively to the presentation and content of the speech of others

Mechanics—Mastery of the mechanics of speech
Precise articulation
Pleasant voice
Fluency in rhythm

Experiences Leading to Speech

Children come to school with many varied backgrounds of experience. They come from homes where many levels of usage and various measures

of culture are to be found. A child is constantly reacting to his environment; out of these reactions come meanings which he expresses in terms of their use to him. As his background of experience grows, he gains a larger number of meanings. Repeated experiences in concrete situations make these meanings clearer to him. Wide opportunity should be given the child to have contact with as many things about him as possible, such as animals, plant life, the elements, historical spots, community and industrial plants, machines, books, music, art, radio, movies.

It is the school's function to create opportunities that will lead to rich environmental experiences and to establish situations in which the child can relate in oral speech the learned facts and feelings resulting from the experiences. Much of this is planned in the Social Living Area.

Each school period contributes to the gaining of these ideas. Vitalizing school subject matter through the use of audio-visual aids helps to assure growth in this area.

Examples of this are:

Nature walks

Visits to a farm

Excursions to historical centers

Use of the library

Movies

Art objects

Music

Radio

Study of objects brought to class

Talks by community leaders or lecturers

These helps may be used in all grades, expanding upon them as the needs and age levels of the children demand or permit.

Sharing Experiences Through Speech

After one has had an experience or idea he normally wants to share it. The most frequent method of doing this is through the spoken word. In order to present his thoughts he must have:

An adequate vocabulary

A knowledge of grammatical construction and organization of language

A knowledge of the common courtesies expected during oral communication

The school day should provide ample time for the development of formal and informal oral communication.

These activities include:

1. Informal conversation
 - with friends
 - with mere acquaintances
 - with strangers
2. Opportunities to learn social courtesies
 - invitations
 - greetings — departures
 - receiving guests
 - introductions — giving and acknowledging
 - expressions of sympathy
 - expressions of thankfulness
 - expressions of regret
 - excusing oneself
 - giving and asking for information
 - telephone activities
 - call friends
 - answer the telephone
 - ask for information
3. Formal speech
 - making announcements
 - committee service
 - participating in discussion with leader
 - debate
 - orations
 - reading aloud
 - to give information
 - to entertain
 - reports
 - dramatic productions
 - telling stories
 - choral speech
 - puppet shows
 - participation in radio and television shows

The well-balanced program will provide definite activities to establish the use and appreciation of:

- Precise articulation
- Pleasant voice quality
- Fluency in rhythm of speech
- Mastery of vocabulary and organization of language

These activities will be such that they will fit the needs of the individual whether they be for development, prevention or correction of speech habits.

Articulation

Speech is imitated. Before sounds can be made one must be able to hear and discriminate the sounds. The English language contains forty-three sounds. Articulation training in lower grades can be started by the imitation of gross environmental sounds without reference to speech.

Exercises for this might include:

- W — as the wind blows
- B — dripping water
- N — the mosquito
- V — the airplane
- R — rooster crowing
- S — radiator steam
- CH — the train
- H — the tired puppy

When children evidence articulatory errors or insecurity in pronunciation of words articulation tests should be given.

With small children who cannot read well it is best to use a picture test that anyone can assemble by gathering pictures and pasting them in a book or upon cards. The child should be tested on his ability to give the sounds in the initial, medial, and final position, since it is possible to be able to make a sound in one position and not in another.

Testing words for which pictures are easily found—

Consonant Sounds:

- P — pony, puppy, cap
- B — boat, baby, tub
- M — milk, milkman, ice cream
- WH — wheel, pinwheel
- W — window, flowers
- F — fork, telephone, knife
- V — valentine, river, stove
- Voiceless TH — thimble, bathtub, teeth
- Voiced TH — the, mother, smooth
- T — turtle, kitten, pet
- D — doll, garden, bread
- N — nose, money, man
- L — lamp, balloon, ball
- R — red, orange, dinner
- S — sing, glasses, horse
- Z — zebra, razor, eyes
- CH — chair, teacher, peach
- J — jump, jumping jack, cage
- H — hat, straw hat
- Y — yellow, onion
- SH — shoe, dishes, fish
- ZH — measure, garage
- K — coat, sucker, cake
- G — girl, wagon, flag
- NG — fingers, song

Vowels:

- | | |
|------------------|----------------|
| e — key | a — strong man |
| i — kitten | a — ball |
| e — bed | u — full moon |
| a — hand | oo — room |
| a — dancing doll | u — cup |
| ah — palm | ir — bird |
| | a — sofa |

In some cases of the consonants only two words are given because the sound is practically never found in all three positions. This is true in the cases of wh, w, h, y, zh, and ng. The teacher will need to note, also, that she is testing sounds and not letters; and she must be sure the words she uses illustrate the sounds to be tested.

Children may have difficulty with the blends—

Ideas for pictures illustrating this are:

- | | |
|----------|-----------------|
| bread | blowing bubbles |
| prince | play pen |
| frog | fly |
| sky | snow |
| store | sleeping child |
| smile | strong |
| spelling | train |

Older children may read the words or sentences containing the words. Children making a great many mistakes should have an auditory acuity test. Slight hearing losses frequently cause speech problems.

Children need not be made conscious of their errors but during reading-readiness drill, phonetic class, spelling or language periods should receive special attention on their individual problems. Extreme cases should be referred to a correctionist or supervisor of special education.

Many unacceptable substitutions such as D or T for TH are common to certain localities. Group interest in the correction should be secured.

Games like "Wiggle Your Thumbs" help.

Directions: When I say "thumb," wiggle your thumbs. Do not move them if I say something else. Teacher repeats:

Thumb, Thumb, Thumb
 Sum Thumb
 Tum Thumb
 Fum Thumb
 Thumb, Thumb, Thumb

Games with nonsense syllables are:

Copy Cat (child imitates teacher)
 Echo (child hides and answers the teacher)
 Clap—The teacher tells the class to clap for a certain sound. She makes a number of sounds. The children clap only for the named sound

Exercises for more mature students might include tongue-twisters, pronunciation bees, choral speech with kindly criticism.

I. VOICE

Well modulated, pleasant voices may be obtained through:

The teacher's control of her own voice

A quiet atmosphere

Exercises to teach an appreciation of voice qualities as:

echo
 dramatization of story characters
 listening to the radio and screen speech
 reading orally
 formal presentation of prepared talks for criticism

Breathing exercises that will assure the elimination of high chest breathing and development of diaphragm control.

II. RHYTHM

Fluency of speech will come with the development of vocabulary and sentence construction.

This must then be carried over to life situations. Throughout life there is a need to become a good

conversationalist. The schoolroom has a wonderful opportunity to give it roots through:

Talking things over in discussion groups and committee work where ideas are launched

Learning how one subject can lead naturally into others

Listening while others give their contributions

Working together to give confidence to the child who has little to say

All of this is based upon the principles of good democratic living, namely, consideration for others, a desire to make a contribution to a common interest, and a knowledge of acceptable ways of handling situations.

This kind of training in our classrooms will enable the child to express his ideas, experiences, and appreciations without emotion, on the level where he is. This helps to develop a pattern of naturalness that insures personal growth. The child is discovering how to meet his needs and those of his group. Speech is the one school activity that can be correlated with every activity of the community and home.

Participation in live radio shows does wonders for many boys and girls. Since radio depends upon voice alone no one is excluded. Many types of voices are necessary: high ones, low ones, pleasant ones, even nutmeg-grater ones if a "Pop-eye" part is considered. Different voices are necessary in balance before a microphone, so all varieties can be used. A boy or girl does not have to be handsome or pretty, tall or short, or even perfect physically, as he or she might have to be in a stage play. Often stutterers forget their trouble before a microphone, the fat girl is not conscious of her width, the short boy has no inferiority complex. Radio is a leveler where the young can meet on common ground. Given the chance to appear before a microphone, many who have not cared about reading too well suddenly get inspired and become very speech-conscious.

Now that television is an actuality, some students are already appearing under the lights and before the cameras. Here is the acid test. Scripts cannot be in evidence; so dialogue, demonstrations, or casual conversation must be memorized or spontaneous. A student whose speech is faulty, slovenly, or full of glaring errors is not considered for this medium, for even if he is corrected in rehearsal he invariably slips back to his own way of speaking. Since television probably will be within a short time where radio is today, our pupils will be ever more conscious of speech before a camera.

With the parents as partners in this three-way enterprise, teachers can do an effective job. Consider using parents these ways:

1. Clarify the problem of the individual child. Then try to work it out with the mother by letting her know what devices are being used. Encourage her to carry this on at home.
2. Organize a parents' group or use part of a season's program to talk about the importance of speech.
3. Wherever possible take a group to a radio station and observe a broadcast. Try to make them speech-conscious by asking them to listen to certain broadcasts.
4. Maybe a group of mothers would enjoy working on a little play to be given for the children.
5. Have the children give a play for the mothers.
6. Have the mothers listen to the same radio programs at home that the children listen to in school.

Rapport established here is most important and in this way the child feels that his mother is linked to the school in a pleasant way. On the other hand, if the mother is sharing her child's experiences, she feels a very important part of the school setup. When parent and teacher can begin to evaluate the growth in the better speech development of the child, nothing will give greater satisfaction.

Of course all of our children will not be platform speakers, radio actors or television speakers, but they have to take their places in society, in business, and in the arts and professions. The ability to speak well is often the open door to a higher position, to a way to command respect, to become a leader in church or civic affairs, and to be an example in a real American home.

SPEECH ACTIVITIES

*Interaction and Cooperation
between*

CHILD TEACHER PARENT

Conversation	X	X	X
Discussion and Planning	X	X	X
Courtesies	X	X	X
Announcements	X		
Telling Stories	X	X	X
Orations	X		
Reading Aloud	X		
Reports	X		
Radio	X	X	X
Puppet Shows	X	X	
Dramatic Productions ..	X	X	
Choral Speech	X	X	
Telephoning	X	X	X

Major Speech Problems

Referral to a speech clinic or speech correctionist should be made when a child has serious speech maladjustment. This, however, does not eliminate the responsibility of the classroom teacher.

I. SERIOUS ARTICULATORY DEFECTS

Serious articulation problems may persist because of:

Organic abnormalities, such as dental malocclusions, immobility of the tongue, and malformation of the lip or palate

Poor auditory discrimination or acuity

Learning incorrect patterns at beginning of speech

Insecure emotional life

It is advisable to consult a specialist in these cases, although a regular classroom teacher can do a tremendous amount to help. Suggestions are:

Make the child secure in school situations

Refer those children with organic problems to the dentist, surgeon, etc.

Use the articulation tests suggested in this bulletin to find the sounds that give difficulty

Explain to the child how to make each sound

Drill on one sound on which he has made an error over a period of time, rather than try to correct all at one time

Encourage and praise when he produces good articulation

II. THE STUTTERER

The cause of stuttering has not been determined. There is no special method of cure. There are two phases of stuttering, primary and secondary.

In the primary stage the child usually does not realize he stutters. If he is kept unaware of his problem he does not develop into a secondary stutterer. The secondary stage, or serious stuttering, occurs after the pupil realizes his affliction and has built up an emotional reaction toward it.

Suggestions to help the stutterer:

1. Cooperate with home to keep child unaware of his problem. Never draw his attention to his defect.
2. Keep him in the best possible physical condition.
3. Be sure he has a well-balanced diet and rest and relaxation.

4. Radio programs, associates, and experiences which unduly excite him should be limited.
5. Every stutterer has days on which he is comparatively free from stuttering. On these days he should have as many speech experiences as possible.
6. He should be seated in the classroom where he will not feel conspicuous when he stutters.
7. An objective attitude toward his problem should be maintained. The teacher must not react to his block. She should continue to look directly at him during the block and not assist him with his speech.
8. On days when his problem seems more serious he should be relieved of speech responses and given other outlets without his being made aware of it.
9. In the secondary stage he must admit his problem and make a conscious effort to overcome mannerisms induced by the stuttering. Any help extended in this should be guided by a specialist.
10. Maladjusted home life contributes to much stuttering. He must be helped to understand, correct, and accept his problem.

III. THE HARD OF HEARING CHILD

(See Department of Public Instruction Bulletin No. 421, *Meeting the Needs of the Acoustically Handicapped*)

1. The child with a hearing loss should be seated advantageously in the classroom.
2. The teacher, parent, and classmates must help him to follow speech by constantly directing remarks, questions, etc., to him.

3. Special attention should be given him in phonetic drill, spelling, language class, etc., in order to prevent speech deterioration.
4. In speaking to him, one must be sure that the light is on the face of the speaker and that the child can see the lips of the speaker.

IV. VOICE DEFECTS

Voice problems may be due to abnormal vocal cords or misuse of the vocal cords. In most cases the advice of a physician should be secured before an untrained person tries corrective measures.

In cases where there are no physical abnormalities improvement can be attained by proper use of the breath stream, stressing vowel production, emotional security.

Evaluation of the Speech Program

1. Has the program provided the experiences necessary to stimulate the desire to speak?
2. Has the classroom atmosphere been conducive to both formal and informal speech?
3. Has each child had opportunities to participate in the speech activities suggested at his age level?
4. Has each child shown growth in the presentation of his ideas?
5. Has each child shown an increasing control of language, vocabulary, articulation, and voice?
6. Has each child shown an increased awareness of his responsibility to the group in speech situations?

NOTES FOR BULLETIN 233-C

SPEECH AT FIVE-, SIX-, AND SEVEN-YEAR AGE LEVEL

ACTIVITIES

PRESENTATION

MECHANICS

Informal

1. Conversation
 - With friends on home or shared experiences
2. Discussing or Planning With the Teacher as the Leader
 - a. A Trip
 - Post Office
 - Fire Department
 - Police Department
 - Crossing streets — safety lessons
 - Dairy
 - Other rooms
 - b. A Story
 - Original
 - Retold
 - c. A letter of
 - Invitation
 - Early dismissal notices
 - Permission
 - d. A Play
 - Reading
 - Science
 - Health
 - Safety
 - Social courtesies
 - Social studies
 - e. A Poster
 - Health
 - Safety
 - f. Records
 - Chart stores
 - Trips
 - g. Class Diary
 - Events
 - Holidays
 - Personal Experiences
 - h. A Party; a picnic
 - i. A Unit of work
3. Courtesies:
 - Greet parents, friends
 - Introduce playmates or family
 - Express thanks
 - Excuse oneself
 - Answer family telephone

- Talk freely with familiar small group
- Should have an informal attitude toward the group
- Wait turn to speak
- Show an increasing interest in others' contributions
- Speak audibly
- Speak in sentences containing one thought, using natural pauses and inflections
- Unconsciously use some words comparatively recently added to vocabulary

Speech may be characterized by substitution, omissions, and indistinct articulation

It is normal for the 5- and 6-year age level to be unable to produce many of the speech sounds

Difficulty most frequently occurs with *s, sh, zh, ch, j, l, r*

th (voiced) and *th* (voiceless)

May show confusion by substituting sounds which to him sound alike, as *t* for *k*

t, s, or f, for *th* (voiceless)

d for *g*, *w* for *r*

r for *l*

He may be unable to use the blends as *fl, fr, sl, sn, sm, sk, st, bl, br*

Specific drill should begin stressing the auditory discrimination rather than the production

He will use principally nouns and verbs and a few descriptive adjectives

His voice is usually high pitched and has a clear tone quality

Many children hesitate or use too many "and's," "uh's," and "er's," as they grope for words. This is normal at this stage.

Formal

1. Make announcements
2. Tell stories or parts of stories he has read

3. Recite before familiar group short poems for their entertainment
4. Dramatize stories
5. Puppet plays

6. Radio skits
7. Choral speech
8. Participate in group activities for public performances

SPEECH AT SEVEN-, EIGHT-, AND NINE-YEAR AGE LEVEL

ACTIVITIES

PRESENTATION

MECHANICS

Informal

1. Conversation

Converse with friends and mere acquaintances on shared experiences or topics of interest as movie, current event, football game

2. Discussions

Participate in discussing or planning group experiences with teacher or other student as leader

Take part of leader with the help of the teacher

3. Committees

Participate on committee; first as member, then as chairman with teacher directing the activities

4. Courtesies

Greet parents, friends, or strangers on occasion

Introduce playmates to each other or to older friends

Express thanks or regret

Excuse oneself

Give invitations

Accept or refuse invitations

Give and ask information of strangers as well as friends

Telephone for specific information from home or school

Talk freely with group

Have an informal attitude toward the group

Wait his turn to speak

Show his increasing interest in others' contributions by questions

Begin to develop a social sensitivity and avoid unpleasant topics offensive to his group, as physical handicaps, race, and religion

Make effort to speak audibly and distinctly, to look at the audience, and sit or stand at ease

Use compound sentences, descriptive adjectives, and adverbs

Make a conscious attempt to use new vocabulary

Begin to avoid slang as *gee*, *gosh*, *listen*, *you see*, etc.

Make all speech sounds

Make a conscious effort to eradicate slovenly speech by using final consonants, and becoming aware of local speech problems, as *d* or *t* for *th*, *w* for *v*, *ch* for *j*, *n* for *ng*

Receive specific kindly help with articulation difficulties

Begin to be conscious of pleasant tone quality and to make attempt to keep voice modulated

Consciously use inflection and pauses to avoid monotonous speech

Use fewer "uh's," "and's," "er's," etc.

Formal

1. Make announcements containing more than one thought, planned with teacher guidance, to classmates and to other classrooms

2. Tell original stories or planned talks (as a trip or camp experience) before his group

3. Choose materials, such as poem, story, or play to present to class to entertain them, as well as to satisfy his own ego

4. Dramatization of stories

Show more imagination

Use originality in props, etc.

Depend less on teacher

5. Puppet Plays

Construct puppets

Use puppet to put across an idea

6. Radio

Participate in programs for real or imaginary mike

Arrange and announce programs

Select topics of interest

Listen courteously to radio programs

Discuss programs he enjoys

7. Choral Speech

Enjoy participation with group

Become aware of the effect of different voices, beautiful language, and rhythm of the spoken word

Read solo parts

8. Public Performance

Perfect some speech activities for class or parent groups

Poem

Participate in play

Make announcement

SPEECH AT NINE-, TEN-, AND ELEVEN-YEAR AGE LEVEL

ACTIVITIES

PRESENTATION

MECHANICS

Informal

1. Conversation and Informal Discussions

Converse interestingly and pleasantly with classmates and strangers

Consciously choose a topic familiar to all

Draw into the group a shy or strange person

Help change a topic when unpleasanties enter in

Start a new topic when old topic lags

Inject humor into the conversation

Avoid "slamming" or personal "wisecracking"

2. Courtesies

Vary greetings to friends and family

Introduce himself and friends on most occasions

Extend and accept or refuse informal invitations

Use telephone to call others than family or friends, as store, station, etc.

Give and ask information from friends and strangers, as storekeepers, policemen, etc.

Know acceptable conduct at movies, on bus, etc.

Receive and dismiss guests of own age

Talk freely with group

Know how to be at ease in an adult group when he can make little contribution

Wait his turn to speak and avoid monopolizing the conversation

Speak audibly and distinctly

Look directly at the audience and sit or stand at ease

Avoid offensive topics, use of slang, starters and repetition

Consciously make effort to use grammar and vocabulary recently acquired in more formal classes

Show increasing interest in others' contributions by questions and remarks

Continue drill on consonant sounds

Prolong and strengthen vowels to help voice control and quality

Use breathing exercises to help those with poor voices and those who use shallow chest breathing

Continue to make effort to eradicate general speech slovenliness by the use of final consonants

using the *th* sound correctly

controlling foreign inflections

omitting "and's," "er's," etc.

looking up pronunciation of new words

Make effort to use orally the grammatical forms taught in written language

Make effort to use a more descriptive vocabulary

Formal

1. Discussion and Committee Work

Participate in larger groups or with the entire class under the leadership of a fellow-student

Act as leader after well-thought-out plans

Use diagrams, objects, and pictures to illustrate his subject

2. Make announcements about school activities to friends or strangers

3. Make short impromptu speeches or tell stories on request

4. Plan homeroom activities and programs. Select suitable material and choose participants

5. Dramatize stories with few suggestions from the teacher

6. Present plays in public

7. Puppet Plays

Present original stories

Use initiative in construction of puppets

8. Radio

Participate in programs for real or imaginary mike

Select suitable materials

Listen courteously to radio and begin to evaluate programs

9. Choral Speech

Enjoy participation in group

Select material that can be read effectively

Give suggestions on how to present the selections

Show sincere appreciation of the rhythm, voices, and language used

10. Public Performance

Perfect speech activities for class or parent groups

Help decide what the audience will like

Begin to evaluate the performance of others

SPEECH AT ELEVEN- AND TWELVE-YEAR AGE LEVEL

ACTIVITIES

Informal

1. Conversation and Discussions
 - Converse with any group of own age
 - Help all in group to become acquainted if they are strangers
 - Put friends and acquaintances at ease in a group
 - Help another join a conversation
 - Use jokes and anecdotes to relieve stiffness
 - Take part acceptably in jocular conversation
 - Avoid topics that are uninteresting or offensive
 - Introduce new topic of interest to the group when old topic grows tiresome
 - Gracefully agree or disagree with respect to others' feeling
2. Courtesies
 - At ease in formal or informal greetings
 - Know acceptable forms of introductions, as younger to older girls and boys
 - Can express thankfulness, sympathy, congratulations, regret
 - Use telephone readily and courteously
 - Extend and accept or refuse invitations of more formal nature with grace
 - Volunteer information
 - Show initiative in securing information
 - Courtesies in public gatherings and in travel

PRESENTATION

- Speak easily in informal group and before class or public assembly
- Address a large group formally
- a. Pause a moment after reaching position
 - b. Stand erect
 - c. Speak audibly and distinctly
 - d. Use complete, clearly separated sentences
 - e. Use vivid vocabulary
 - f. Use posture, gesture and facial expression consciously to present materials effectively

MECHANICS

- Use with confidence all the phonetic sounds
- Know all the confusing symbols of the phonetic sounds and use syllabization to attack new words
- Practice on the confusing symbols (example—*c, k, x, q, ch* are pronounced as *k*).
- Speak audibly and distinctly, being aware of final consonants
- Use accepted pronunciation of vocabulary (use of dictionary)
- Consciously modulate voice, use inflections and pauses to emphasize

Formal

1. Committees or formal meetings over which a chairman presides
 - Recognize chairman
 - Obeys chairman — speak only when recognized
 - Conduct meeting—select chairman, recognize speakers, adjourn meeting
 - Keep clearly in mind the purpose of the meetings
 - Listen attentively and discriminatively to others — raise questions
 - Be careful not to monopolize time
2. Homeroom Program
 - Plan without teacher
 - Select materials appropriate for occasion
 - Arrange program — preside
3. Stories or Reports in all Classes
 - Give events or information in proper sequence

- Start action in opening sentence
- Identify characters in the beginning or as they appear
- Omit nonessentials
- Use diagrams or visual aids to help listeners understand
- Keep out direct personal reactions
4. Summarize Reports
 - Use notes as reminders
 5. Dramatic Productions
 - Plan the play in a systematic fashion
 - Avoid conversation not contributing to plot or characters
 - Use initiative in securing properties and costumes
 6. Radio or Television
 - Select materials adaptable to radio or television
 - Criticize materials used in radio
 - Present materials acceptably

- Utilize local stations when possible
7. Reading Aloud
 - Choose suitable selections
 - Use voice, inflection, pause, etc., to create mood of selection
 - Volunteer to read
 - Memorize passages or poems for entertainment
 8. Panel Discussions or Debate
 - Reduce a case to a few fundamental issues
 - Arrange with team mates a plan for presenting a case
 - Cite facts and authority and eliminate opinion
 - Avoid sarcasm
 - Summarize
 9. Choral Speech

READING

A child's reaction to reading instruction and the degree of success in reading activities will be influenced by his total personality. Likewise, the success or lack of success will in turn affect his total development. The integrated factors which determine his educational growth and achievement are (a) vision, hearing, speech, muscular coordination, and energy; (b) adequate social competence to participate in and contribute to all group activities; (c) reasonable control of emotions in interpersonal and group situations; (d) intellectual development adequate to the experience so that it has meaning for him and a need for it is recognized; (e) background and experience through which are evolved concepts, language power, and language patterns which form the basis for understanding of abstract printed symbols.

Formal grade level goals, the coverage of specific books, and the assignment of fixed quantities of material produce a situation which makes it impossible for many children to learn. Growth comes only through understanding; and when children are "pushed" through materials at the expense of comprehension, learning is actually prevented. Those whose rate of maturation is above the average may have their learning opportunities curtailed and the ensuing idleness and boredom may cause poor work habits, undesirable attitudes, and social difficulties.

Reading effectively is a goal toward which all children will progress at varying rates and the reading of the individual and of the group must be in terms of that which it is possible to achieve. Continuous, desirable growth can be stimulated and guided only through instruction which is differentiated in terms of the ability, the needs, and the interests of the individual and of the group.

No area in the curriculum has received so much attention from teachers, parents, administrators, and authors of articles, books, and research as has the field of reading. Since it is a tool whose use will aid or deter all growth that is dependent upon printed materials, questions like the following, which are commonly raised for discussion, are dealt with in this section:

- How do I develop first-grade reading readiness?
- What is meant by reading readiness at all grade levels?
- How can I increase the comprehension of the children?

What are effective ways of promoting vocabulary growth?

How can I promote good oral reading?

What has speed to do with reading?

How can I help the slow reader?

What are the materials I need?

The Well-Balanced Reading Program

The modern concept of a well-balanced reading program is one in which all its elements—oral, silent, informational, literary, recreational, and vocabulary development—are present at each and every grade level. The program is a continuum and the difference at each grade level is not in what is taught but, rather, the degree to which each element is developed. Increasing maturity with its increasing ability provides the basis for constant refinement of skills and appreciation.

A well-balanced program can arise only from a rich reading environment which embraces all the reading activities of the day from "Good Morning" until "Good Night." The materials include all printed and written materials whether they are to be found on the blackboard, the bulletin board, the library table, the basic textbooks, the supplementary books, or the child's own notebook. Throughout the day, a real need in all curricular areas and experiences promotes silent, oral, informational, literary, and recreatory reading. The development of concepts prior to the reading provides a rich background for the constant emphasis upon meaning. Accompanying this diversified program will be broad vocabulary development designed to increase command of the meaning of all "new" words or of a new meaning of a known word in an unfamiliar context. Independence in recognition of unfamiliar words is promoted through planned systematic word analysis activities in both reading and spelling. Appreciation and enjoyment of excellent literary materials aid the constant refining of taste and appreciation and the forming of a permanent interest in reading. Systematic instruction in the basic reading or study skills develops assimilation and interpretation of ideas through ability to locate, select, evaluate, and organize information.

The organization of a sound, systematic, flexible reading program geared to the child's rate of maturation has, as its keynote, prevention of reading disability. Variety of approach, flexibility of method, and wise use of materials suited to the individual

achievement level enable each child to grow continuously, soundly, and happily.

Samples of varied reading activities growing out of the total curriculum are:

- Signs, labels, captions, and posters
- Plans, announcements, bulletins, notices, and lists
- Daily news, daily records, room diaries
- Group assignments in basic and supplementary readers
- Individual assignments in basic and supplementary readers
- Group assignments in basic and supplementary textbooks
- Individual assignments in basic and supplementary textbooks
- Group and individual independent wide reading stimulated by interests growing out of units of work
- Assigned and voluntary reading for special reports
- Reading to answer questions formulated by group and by teacher
- Independent recreational reading carried on in out-of-school hours
- Free reading periods within school
- Reading of current events, cartoons, newspapers, and magazines
- Reading of classroom newspaper

Developing First-Grade Reading Readiness

Although it is customary to think of reading readiness as the preparatory instructional period in the first grade, actually readiness has been steadily developing since birth. Mental maturation, total personality, and experience have brought the child into contact with oral word symbols, and he has thus acquired hearing and speaking vocabularies. The acquisition of a reading vocabulary is the next step in the developmental sequence of language ability.

The level of maturation achieved by the child physically, socially, emotionally, and mentally will determine his degree of success in gaining control over this added ability. Because experience and total personality vary from child to child, each child will have his own level of reading readiness. Some will need further time to continue growing in order to reach the place at which they will profit from book reading. Others will have achieved this level and are ready to begin at once.

The necessary knowledge of the children's abilities, interests, needs, strengths, and weaknesses is gained through the use of reading readiness tests, intelligence tests, and systematic observation. The grouping of children facilitates the study of each child and helps to determine the specific needs of the individual and the groups. When these have been established, then can the teacher plan definite instructional activities which will develop the needed abilities. The following inventory may be of value:

- In indicating the scope and range of the activities needing to be planned to develop reading readiness
- As a guide for teacher observation of children
- As a check upon "when to begin" direct reading instruction
- In parent conferences
- In developing an understanding of reading readiness with room parents, parent-teacher and other adult groups.

Readiness for Reading at All Grade Levels

In addition to his own background which he brings to the reading, pupil performance will be influenced by the type, kind, and amount of specific preparation that he has for it. The preparatory or readiness period, whether conducted in the primary grades or in the assignment development in any area in the upper grades, is of utmost importance. Here, interest is aroused, new concepts are developed and are related to previously known ones, difficulty with specialized or technical vocabulary is anticipated, and purposeful questions, which can be answered through the reading, are established. The length of time for such orientation varies with the group's familiarity with the content. A group of farm children preparing to read a farm story will spend but a few minutes in discussion. The same group, however, in preparing to read a unit on pioneer life may well spend two or three class periods building a meaningful background by pooling their common knowledge and in raising questions which will establish the need to know and which they will use to direct their reading.

The type of questions and assignments determines the level of the reading performed. Vague, general questions elicit the same kind of vague interpretation. The use of factual questions, which call for specific location of a word, a phrase, a sentence, or a paragraph requires the ability to see relationship

INVENTORY OF CHILD'S ABILITIES AND NEEDS FOR READING READINESS

Evidences of Social and Emotional Maturity

	GOOD	FAIR	BELOW AVERAGE
1. Is he happy in the group?			
2. Does he listen to and learn from others?			
3. Does he contribute to the group in ideas and actions?			
4. Does he take only his own fair share of time and attention?			
5. Does he have a reasonable amount of control over his emotions?			
6. Is he willing to persist or try again when disappointed?			
7. Can he work independently at an assigned task?			
8. Does he begin work fairly promptly?			
9. Does he complete assigned tasks?			
10. Does his family encourage independence and initiative?			

Evidences of Breadth of Background of Experience

1. Has he had the majority of experiences that he will read about?			
2. Has he visited farms, cities, parks, zoos, or airports?			
3. What trips has he been taken on?			
4. Does he know about automobiles, airplanes, trains, and buses?			
5. Does he go to Sunday School?			
6. Has he been to various places within the community?			
7. Does he go on errands to the store?			
8. How comparable is his home situation to the one about which he will read?			
9. What literary background does he have?			
10. What movies does he see?			
11. What radio programs does he listen to?			

Evidences of Mental Maturation

1. Is the child mentally six and one-half years of age?			
2. Does he have a normal curiosity about books, things, and places?			
3. Does he express curiosity as to the meaning of printed signs, labels, and captions?			
4. Does he ask questions?			
5. Can he recognize some of the printed signs, labels, or words in the experience stories?			
6. Does he have a fairly wide speaking vocabulary?			
7. Does he express himself in simple English sentences?			
8. Can he tell a personal experience in logical sequence?			
9. Can he retell a story in logical sequence?			
10. Can he repeat a sentence correctly?			
11. Can he repeat from memory a rhyme or jingle?			
12. Can he interpret a picture meaningfully?			
13. Is he interested in picture books?			
14. Can he listen to a story attentively?			
15. Does he have a normal span of attention?			
16. Does he want to learn to read?			

Evidences of Physical Maturation

1. Does he have a normal amount of energy?			
2. Is his general health good?			
3. Does his vision seem to be normal?			
4. Does his hearing seem to be normal?			
5. Does he notice likenesses and differences in objects, forms, and colors?			
6. Can he detect likenesses and differences in word forms?			
7. Can he hear the likenesses and differences in the sounds of words?			
8. Does he have the muscular coordination necessary to manipulate pencils, crayons, scissors, and tools?			

between ideas, the differentiation between main ideas and supporting details, and stimulates thoughtful reading. Interpretative questions based upon the presented facts, but not answered directly within the content, require reasoning. Evaluative questions call for comparisons and the making of judgments and are, in addition, valuable in maintaining previously developed concepts.

DIRECTING GROWTH IN COMPREHENSION

A definite increase in the use of direct experience in the curriculum is to be noted in an attempt to facilitate real learning. Yet, in the main, our schools continue to be *reading* schools. During a major part of the time, the reading is done to gather facts, knowledges, and informations. Such reading is apt to be largely assimilative in type, but if children are taught to accept unquestioningly that which is read, a dangerous life habit is being established.

The ability to derive meaning from printed and written materials is the essential purpose of all reading. Effective reading goes far beyond the oral reproduction of that which has been read. Children read as they have been taught to read. If the result is not satisfying, it is because they have not had the opportunity to learn to use the basic reading or study skills.

Beginning with the first grade, children should have experience in making inferences, evaluations, and drawing conclusions. At all grade levels, the use of summaries and outlines aids in ability to recognize main ideas and to generalize. Location of information, selection and evaluation of specific information pertinent to a point or topic, and the organization of information are basic to the comprehension of informational materials.

Suggested abilities in each of these are:

LOCATION OF INFORMATION

	BEGIN SIMPLY IN GRADE	CONTINUE THROUGH GRADE
Ability to use —		
1. The table of contents . . .	1	6
2. The index	4	6
3. The glossary	5	6
4. Footnotes	5	6
5. Bibliography	3	6
6. A dictionary	3	6
7. An encyclopedia	3	6
8. An atlas	4	6
9. A card file	4	6
10. Maps, graphs, charts and diagrams	1	6

SELECTION AND EVALUATION OF IDEAS

	BEGIN SIMPLY IN GRADE	CONTINUE THROUGH GRADE
Ability to select —		
1. Main ideas	1	6
2. A topic sentence	4	6
3. A summary sentence	4	6
4. Supporting details	3	6
5. That which is pertinent to a question or problem	2	6
6. Ability to see the relation- ship between ideas	1	6
7. Ability to understand the organization of a paragraph	4	6
8. Ability to integrate ideas with previously estab- lished concepts	3	6
9. Ability to identify antece- dents and references to other passages	5	6

ORGANIZATION OF IDEAS

Ability to —		
1. Make a simple outline . . .	4	6
2. Make an oral summary . . .	4	6
3. Write a summary	4	6
4. Draw conclusions	1	6
5. Generalize	1	6

Such specific abilities require planned instruction for their development. The source of material must be factual rather than story in content. The direct instruction may be given in either the reading period or in the content area periods where it will be practiced.

The field of reading is so broad that it embraces all printed materials. It has no subject matter peculiarly its own. Success in reading in the content fields is closely related to reading efficiency. For example, in science (as in all of the content fields) one avenue of knowledge is reading. The reading material is about science. Therefore, in this situation reading and science are synonymous. The vocabulary and the reading skills essential to achievement in the content fields differ considerably from one field to another. Sensitivity to the reading needs of each field will do much to increase the child's ability to assimilate, to interpret, and to evaluate needed information critically. The total curriculum requires that a variety of skills, abilities, and techniques be developed.

The ability to read aloud is no proof that the child understands what he is reading. Nor can ability to repeat what the book says be so construed. Studying with the children and, in so doing, directing the development of reading or study skills, are excellent ways to promote comprehension and, hence, real learning.

Such methods, too, provide opportunity for meaningful oral reading. As children read aloud topic or summary sentences, main ideas, supporting details, sentences or paragraphs to prove a point, they are gaining practice in oral reading in a natural social situation.

DIRECTING VOCABULARY DEVELOPMENT

Development of the Meaning Vocabulary

Vocabulary development is broader than the mastery of the word list in the basic reader. The total curricular experiences provide a rich possibility for developing and enriching of the vocabulary. The everyday experiences of the children provide still another source. Lists of the most common words occurring in both printed and written materials have been compiled by Dolch, Gates, Thorndike, Horn, Rinsland, and others. These lists are helpful in giving the general level at which a word may be likely to occur in a child's school experience.

Careful attention should be given to the development of meaning vocabularies. Only in so far as the words have meaning for the child will he be able to interpret printed material. Not only should the meaning of new words be developed carefully but further attention should be given to those words which are multi-meaning. In one context, the word "fast" may mean to move rapidly; while in another, it may mean to remain fixed in position. When a child knows only one meaning of such a word and logically attempts to use it in the wrong context, misunderstandings arise. History and geography, in particular, abound in such multi-meaning words and difficulty in learning is anticipated by careful development of the particular meaning called for in the specific context.

Development of the Ability to Recognize Words Independently

A systematic program to develop independence in word recognition should be instituted in the first grade and be continued throughout the elementary school. This program with its necessary emphasis upon isolated words should be but a complementary part of the total program. Overemphasis upon isolated words can result only in lack of comprehension and word-by-word reading.

The program is developed simultaneously in the word analysis activities in both reading and spelling. (See pages 110, 111, spelling section) Experience with varied techniques should make the child versatile in applying them. In general, the program includes the use of:

- Picture clues
- Context clues
- Configuration clues
- Phonics
- Structural analysis
- The dictionary

Much must be done to teach how to examine a word critically and systematically. Definite instruction in left-to-right progression, together with the ability to recognize known elements, will increase both recognition and spelling ability.

The question of the teaching of phonics is ever present. Phonic instruction has a place within the word recognition program but it must be emphasized that it is but a part and must be supplemented by the other methods.

Phonics

I. DEFINITION

Phonetics is the science of the sounds in language; phonics is the term usually applied to the study of the sounds as they are related to the pronouncing of words in reading activities. Since instruction in phonics is given to aid in developing independence in word recognition, the study of phonics is considered a part of the program of reading instruction.

Instruction in phonics and mastery of phonetic principles will not solve all reading instructional problems. It must be emphasized that phonics deals only with word recognition and pronunciation. A child may have the ability to pronounce many words for which he has no concept of meaning. To read for meaning, a child must be able to recognize the word, pronounce it, and have a clear understanding of the meaning that is embodied in the contextual situation in which the word is placed. The development of meaning or meanings is the responsibility of every teacher.

II. BASIC SIGHT VOCABULARY

Through the learning of a basic sight vocabulary, the child is able to read with meaning, and from the beginning, he *reads to learn*. This basic sight vocabulary presented in the basal readers is carefully selected through research on the basis of cruciality, commonness, present and future need,

recurrence, and meaning to the child. The known basic sight vocabulary is used as the foundation for phonic instruction and, in so doing, a sound psychological principle is employed. Using the known for a basis, the unknown is developed and instruction moves in both a logical and a psychological sequence. The confusion which results when both instruction in phonics and the mastery of a basic sight vocabulary are attempted at the same time, is thus eliminated.

III. NEED FOR PHONIC INSTRUCTION

In general, the rate of presentation of new words in a preprimer or primer is such that the child is able to add them to his basic sight vocabulary as they occur. Beyond these levels, the number of new words presented per unit increases. In addition, the child should begin to read in science, social studies, health, and safety preprimers. Thus the number of new words encountered by the child is sharply on the increase. Since time and number in the reading groups preclude the teacher's telling each child every word that he wants to know, the child is faced with a need for some means of working out the new words for himself.

IV. CRITERIA FOR PHONIC INSTRUCTION

Since children mature at their own rate, no definite grade level can be assigned as the place to begin phonic instruction. However, the first-grade teacher is responsible for the readiness which will make such teaching meaningful to the child. The ability to hear and to see the likenesses and differences of words is basic to the study of the sounds of the letters within the words. The following criteria are suggested for determining when to initiate direct phonic instruction:

1. The child's reading is meaningful to him.
2. Auditory discrimination has been established to the degree that the child is able to hear the likenesses and differences of words.
3. Visual discrimination has been established to the degree that the child is able to see the likenesses and differences in words.
4. A felt need is experienced by the child for a means of working out independently new or forgotten words.
5. A basic sight vocabulary of from 75 to 200 words has been mastered.
6. The mechanics of reading have been mastered to the degree that:
 - a. Left-to-right progression has been established.

- b. Correct return sweep from the end of one line to the beginning of the next has been established.

- c. Punctuation is interpreted.

7. The oral reading is smooth, rhythmical, natural, and expressive of meaning.

V. THE OLD AND THE NEW IN THE TEACHING OF PHONICS

Earlier methods of teaching phonics relied on the synthetic blending of individual letters. This resulted in sound distortion in which "cuh-a-tuh" could not be recognized as "cat." In addition, the too early emphasis upon meaningless individual letters caused the children to be word-by-word readers. The amount of effort expended by both the teacher and the child, together with the poor results, caused many teachers to question the whole approach and to discontinue the teaching of phonics.

The phonic instruction employed by successful teachers today may be termed visual analysis. The child is taught left-to-right inspection of the word. Silently he concentrates upon the beginning of the word to identify the initial letter, blend of letters, or syllable. He next looks through the remaining part of the word for known elements or letter combinations. He again looks through the word as a whole, mentally blending the parts as they occur. He then pronounces the word as a whole.

VI. SEQUENCES OF INSTRUCTION IN PHONICS

The First Grade

Readiness activities to develop auditory and visual discrimination are a definite part of the reading activities in the first grade. When the child has reached the level of first-reader material, direct phonic instruction may begin. The sequence of the presentation of initial consonants will be that given in the teacher's manual which accompanies the basal reader. This sequence has been carefully developed in terms of the initial consonant's recurrence in the basic sight vocabulary. In this way, the stock of basic sight words is used to develop the relationship of auditory and visual imagery attached to the individual letter.

The sound of the individual consonant is never presented in isolation. A group of known words may be listed on the blackboard. As they are pronounced, the child both sees and hears that they begin alike (*may; my; make; mother*). He discovers that the listed words all begin with the same letter and that each word sounds the same in the beginning. Thus, instead of the teacher "telling" the child, he discov-

ers the phonic principle for himself which is a basis for real learning.

In addition to the presentation of the initial consonants, attention should be given to the addition of the most common endings *s*, *ed*, and *ing*. Care should be taken that any shift in meaning is developed with the addition of the ending.

Educationally desirable seatwork may be developed around this phase of instruction. The basic sight vocabulary can be reviewed and maintained by the use of exercises in which the child builds a variant of a known word by the addition of these endings. Such work should be accompanied by an oral check. This type of exercise is of value, too, in that attention is called to the end of the word. Too many children are overdependent upon the initial consonant and after one glance at it, guess at the rest of the word.

Auditory training should be continued with especial attention to hearing the rhyming elements of words. The child should learn to recognize that such words as *may*, *say*, *stay* have certain visual auditory and visual likenesses. Jingles, rhymes, and poetry may be used in both free and instructional periods. Children soon, in many cases, begin to produce jingles and rhymes of their own. These can be compiled into a booklet for the library table and enjoyed individually or in small groups.

The Second Grade Level

At the second grade level (when the children are reading second grade material), the work presented in the first level should be systematically reviewed and maintenance work given. The spelling instructional period affords a splendid opportunity for this type of review. The auditory and visual relationships of all consonants with the exception of *q* and *x* may be presented at this level. The child should be able to recognize the consonant in both initial and final positions of the word (*dog*; *had*). He should learn to substitute mentally one beginning consonant for another and to pronounce the resulting word.

In addition to the single consonants, training should be given to increase independence in the recognition of all consonant blends (*bl*, *br*, *cl*, *cr*, *dr*, *fl*, *fr*, *gl*, *gr*, *pl*, *pr*, *sc*, *sk*, *sl*, *sm*, *sn*, *sp*, *st*, *sw*, *scr*, *str*, *tr*, *tw*). In these consonant blends, the two sounds of the individual letters are blended into one sound, yet each sound can be identified by a trained ear. Again, caution is given that these sounds are never given in isolation.

Certain of the consonants combine to form a new sound in which the original sounds are not identi-

fiable. These combinations are termed consonant digraphs and experience should be provided to help children recognize and use *ch*, *sh*, *wh*, and *th*.

In the study of vowels, attention is first directed to known one-syllable words containing the short sound of the vowels *a*, *e*, *i*, *o*, *u*, and the long sound of *y*. Following the development of the short sound of the vowel, known one-syllable words are noted in which the addition of the final *e* (*rose*) makes the first vowel long.

The learning of how the final *e* on the end of a monosyllabic word affects the sound of the preceding vowel, makes a logical introduction into vowel combinations. Known one-syllable words are noted that contain two vowels in succession in which the first vowel is long and the second vowel is silent (*seat*). Experience should be given with *oa*, *oe*, *ai*, *ea*, and *ee*.

Recognition of endings is maintained and additional experience is given with *er*, *est*, and *ly*.

The simple prefixes should be noted and recognized. Attention should be directed to the most common at this level as a means of developing readiness for such work in the upper levels, but the child should be able to recognize *be*, *in*, and *un*.

Auditory training continues to play an important role. By the end of this level, the child should be able to recognize the rhyming elements in known words of *ake*, *all*, *an*, *ar*, *at*, *ay*, *ell*, *er*, *et*, *op*, *oad*, *ound*, *ump*, *eat*, *ight*, *old*, etc.

The Third Grade Level

During this level (reading of third-grade materials), the work presented in levels 1 and 2 should be systematically reviewed and maintained. If testing or usage indicates that a child or a group of children have not reached or have not retained the knowledge necessary for further instruction, then it becomes necessary for the teacher to determine just what the child or group does know and start instruction from that point.

Phonic experience at the third-grade level should extend recognition in:

The vowel diphthongs *ou*, *ow*, *oy*, and *oi* (Here, the two vowels combine to produce a new sound in which neither of the two original sounds can be recognized)

The letter combinations of *ir*, *er*, and *ur*

The letter combinations of *or* and *ar*

The silent first letter in *wr* and *kn*

The letter combinations of *au* and *aw*

The sounds of *x*, *z*, and *qu*

The two sounds of *oo* (foot; cool)

The two sounds of *ow* (down; show)

The endings *le*, *y*, *en*, *ies*, *ied*, *es*, *ves*, *ily*, *ful*, *tion*, *tain*, etc.

Common prefixes *per*, *pre*, *de*, *re*, *ex*, etc.

The soft and hard sounds of *c* and *g* according to the letter following it (*c* and *g* are usually soft when followed by *e*, *i*, or *y*—gentle, gist, gymnasium, cent, city)

All forms of contractions

During this grade level, syllabication is begun. The children usually refer to “the parts of words” rather than using the term “syllables.”

The spelling analysis period affords splendid opportunity for phonic experiences. The child, however, should clearly understand that he cannot rely on phonics alone to aid him in spelling of words. In too many cases, the spelling errors are caused by overdependence on phonics. Since approximately only sixty-five per cent of the words in the English language conform to the phonetic principles, pronunciation must decide whether phonics will or will not be an aid and whether the word must be mastered by rote memory.

Grades IV, V, and VI

Previously, it was too often thought that all work in phonics should be mastered in the primary grades and that the teachers in the upper grades had no responsibility for the phonic program. Gradually, upper-grade teachers have come to see that they need to review, to maintain, to develop further, and to refine phonic skills as an aid to independence in word recognition, spelling, and use of the dictionary.

The members of the group should be tested in order to determine their degrees of phonic competency or independence. Instruction begins at this point wherever it may be. Definite maintenance work must be continued. Further work should be developed in syllabication as the pupil encounters longer words. All common prefixes and suffixes should be developed. Interpretation and usage of the dictionary key should be mastered.

Phonic principles pertaining to syllables need to be developed during these levels. Particular attention is directed toward open and closed syllables. A closed syllable is one that ends with a consonant and the vowel contained therein is usually short (im-por-tant). An open syllable is one ending with a vowel and the vowel is usually long (na-tion).

Developing the Ability to Read Well Orally

Oral reading activities are a source of pleasure to the individual and to the group when they arise in response to a meaningful situation and adequate preparation has made interpretative, effective delivery possible. This social situation is one that promotes desirable attitudes, habits, skills, and interests.

The reader has the responsibility of preparing the material and in so doing gains practice in vocabulary, rhythm, phrasing, breath control, enunciation, and pronunciation. Poise and self-confidence are fostered. In this audience situation the listeners have a purpose for listening and practice in courteous attention is gained. In the discussion following the reading, the high points are stressed and an interchange of knowledges and personal experiences is made possible. Meaningless verbal reproduction without preparation promotes tensions, fears, dislike of reading, and, in many cases, actually causes reading errors.

Class-made standards for good oral reading emphasize the essentials which need attention to make oral reading intelligible and pleasing. Child and teacher evaluation of the performance of a reader should be in terms of these same standards. All the suggestions to the reader should be constructive in that the good points of performance are stressed first and followed with suggestions for further work to improve the next oral reading.

The possibilities for good oral reading are curriculum-wide. In the social living areas much oral reading can be done as an integral part of the daily discussion. Reading the proof to answer a question; to settle a disputed point; to make comparisons and evaluations; to select the main idea, the summary, or the topic sentences, are samples of the natural use of oral reading. There is also, of course, legitimate oral reading during basic reading class. This should, however, be prevented from deteriorating into meaningless and monotonous reading “in turn.”

Various types of groupings within a group will provide additional oral reading practice. If twelve children have enjoyed a story so much that they ask to read certain parts, the conversation, or even the whole story, there is no reason why they should remain in one group. Three groups of four each will keep group interest and the social audience situation, yet the participation of each is increased immeasurably.

Some sample activities of oral reading to the whole group or to a small group may well be:

- Reading a story
- Reading parts of a story for a purpose
- Reading poetry
- Reading newspaper clippings and magazine articles
- Reading special reports
- Reading book reviews
- Reading original stories and verse
- Reading in response to assignments in the content fields

DEVELOPING RATES OF COMPREHENSION

The development of speed with no regard for comprehension has no place in reading activities. Rather, the goal is rate of comprehension, which means the rate at which a reader can interpret the material according to the purpose in mind.

In general, three rates of reading comprehension are commonly employed: (a) skimming to locate specific information; (b) rapid reading to gain a general impression; (c) careful study-type reading for exact information. In many instances all three rates of comprehension may be employed in reading the same article in response to the interest and need of the reader for the various passages.

The rate of comprehension used in the reading of any material will vary in terms of these related factors. The purpose of the reader will help to establish the rate in that it determines how much information he wants to receive. The background of information the reader takes to the material will influence rate. Familiarity with content promotes faster comprehension; unfamiliarity, of necessity, slows it down. The difficulty of the material both as to unfamiliar or technical vocabulary and sentence structure will also affect rate of comprehension.

Children at every grade level need direct instruction to develop efficiency in the use of varied rates of comprehension. Under teacher guidance the first-grade children skim to find an exact word or phrase. Rereading material silently for a purpose promotes rapid reading. Children need not only to be versatile in applying the varied rates of comprehension but they need the added ability to select and use the suitable rate of comprehension in terms of the reading situation at hand.

THE REMEDIAL READING PROGRAM

In almost every classroom will be found a child who has not been able to succeed in reading. This situation is not his fault but has been caused by the adults, who are responsible for his growth, failing to meet his needs. Many reading disability cases are caused by conditions within the home, overcrowded classrooms, poor teaching methods and techniques, and lack of adequate materials.

Each child in this classification should be regarded as a stimulating challenge to teacher efficiency. A study of the *why* of this condition often helps to point out the solution.

Children range in reading disability from the one whose case is so serious that it needs intensive study in a professional clinic to the one whose retardation is slight. Fortunately, the number of the former is not great and when such a child is identified by the teacher, she should be able to direct parents to the nearest source of expert help.

Many children have been labeled "dumb" or "stupid" because they cannot read. It is possible that this difficulty has been or is being caused by physical disabilities. Close observation may indicate visual or hearing disabilities. By all means, the help of the school nurse should be obtained to determine whether referral should be made to a specialist.

An intelligence test should indicate whether the child is educationally retarded in terms of his mental age. If he is nine years old chronologically and seven mentally and is reading at the seven-year level, he is performing at maximum ability and is not a reading disability case.

Many of our bright children are actually the reading disability cases. Although they handle the assigned grade level work satisfactorily, they should be supplied with additional and more difficult materials which will stimulate them up to their maximum ability. In enriching their own background, they help to enrich the background of the whole group as they give explanations, lead discussions, and make reports. The service of a psychologist is available to most teachers in Pennsylvania upon request through their principal or superintendent. The psychologist is trained to make thorough individual examinations and can give authoritative opinion of a child's native ability.

In addition to the study of the physical and mental aspects of the child, the teacher should:

Ascertain the present and previous home conditions

Investigate age of school entrance and school record in terms of difficulties, absences, and repeating of grades

Attempt to discover causes of social and emotional maladjustments

The administration of a reading inventory in a graded set of basic readers will identify the independent reading level, the instructional level, and the frustration level. A record of the errors made in vocabulary and the attempts at unknown words will provide clues to needed vocabulary development.

The first reading should be a paragraph or two at a level at which the child has no difficulty. Then he reads a like amount in each succeeding level until he is unable to grasp meaning or even to pronounce words. Discussion of the preparation and administration of this technique can be found in Durrell's *Improvement of Basic Reading Ability*, Betts' *Foundations of Reading Instruction*, and in the revised edition of Hildreth's *Learning the Three R's*.

When instruction is instituted, it must be at the child's present achievement level. Often he must work alone, and his work must be planned and opportunities made for him so that he can work independently. Other children may obtain needed practice, review, or maintenance in working with him, and the sharing of work together without direct teacher supervision helps to develop initiative and independence.

The joy and satisfaction to be obtained in seeing the growth of the child and the knowledge that it is her expert guidance which has promoted it, are a source of lasting pleasure and gratification to the conscientious teacher.

How to Use Reading Materials

The success of a reading program adapted to maturation levels, interests, and abilities and administered through grouping of children is dependent to a large degree upon availability of materials. Such a program cannot be instituted or developed with one set of books for a given grade level.

Basic readers have an important place in such a program. The basic readers should not be limited to one grade level, and every child should not have the same copy. Sufficient range in grade levels should be provided so that the needs of each child

are met. It is possible that each group, and the individual remediable cases, might be all working on different levels. The teachers should be supplied with the teacher guide books or manuals which accompany the readers. Such guides have been prepared by experts and they present the scientific organization of the materials and suggest sound methods and techniques for their development.

A further use of basic readers is in supplementary situations. Children should have further group experience in reading together. These readers should be at a level which is easier than that of the basic reading instructional period. A part of reading enjoyment is the sharing of emotion, the exchange and interchange of personal reaction and comment about easily grasped content in a social situation.

Children should also have access to library materials to increase further their reading experiences. Wide informational reading should be stimulated by the interest and needs arising from the units in the content fields. Through them, too, can be developed a balanced reading diet. As a natural part of the total program, children should read biographies, autobiographies, books of travel and of foreign lands and peoples.

In addition, such interests should stimulate the reading of any literature which may present or touch upon a phase of the units. For example, children's literature abounds with excellent fiction based on incidents in colonial life in America. Through such reading, history comes to life, and the background, depth of understanding, and enjoyment are increased.

And, finally, there should be encouragement and provision for reading for sheer pleasure and enjoyment. The teacher's own enthusiasm for books and children, her knowledge of children's likes, interests, and abilities, her knowledge of the themes of books, her knowledge of the relative reading difficulties of such books, and the wide choice of available materials—all make possible the development of a source of life-long enjoyment and culture.

"Books are keys to wisdom's treasures,
Books are trails to lands of pleasure,
Books are paths that upward lead,
Books are friends; come let us read."

—Anonymous

All good reading programs have a systematic plan for evaluation of pupil growth and the effectiveness of the program in general. Both standardized and teacher-made tests have contributions to make and should be considered an integral part, not an afterthought, of essential instructional material. Since

no test can do everything, tests should be selected to do as accurately as possible the particular job that needs to be done. A general survey test can give the status of a whole district, and point out parts of classes that need more diagnosis, or even certain types of reading that need more attention generally.

A diagnostic test should fit both the pupil being tested and the course of study being used if the test is to yield data which can be interpreted for actual teaching purposes. Intermediate teachers should use primary tests with their slow learners. A diagnostic test is not a tool which in itself can provide enough data to be used as a basis for pupil placement. The curriculum should determine the test—the test should not determine the curriculum.

Evaluation of the Reading Program

The following questions should be answered in evaluating a Reading Program:

1. Is the child deriving meaning from the content?
2. Can he discuss what he has read?
3. Can he recall events in logical order?
4. Can he locate specific information?
5. Can he select and evaluate material in terms of a specific question or problem?
6. Can he use the table of contents, the index, the glossary, footnotes, bibliography, card catalog file, dictionary, encyclopedia, or atlas?
7. Can he select main ideas and supporting details?
8. Can he answer inferential and evaluational type questions on the content he has read?
9. Is his oral reading smooth, rhythmical, and interpreted in a pleasing well-modulated voice?
10. Does he have a fairly wide basic sight vocabulary?
11. Does he have a fairly broad meaning vocabulary?
12. Is he sensitive to words that have more than one meaning?
13. Does he have the ability to work out new words independently?
14. Is he versatile in applying the varied rates of comprehension in terms of his purpose for the reading?
15. Does he enjoy reading?
16. Does he handle books with consideration and care?

HOW TO DEVELOP APPRECIATION OF LITERATURE

Do We Need Literature?

Since all life experiences are educative and education continues through life, one valuable source of continuous extension and enrichment of experience is the world of literature. Through it, a life-long source of culture, enjoyment, and personal, emotional, and intellectual growth is made possible far beyond the boundaries of everyday living. Experience with characters in books develops vicariously sympathy, understanding, and respect for others, and helps to form ideals and standards. Horizons are broadened and new interests in other activities are formed as imagination takes wing with printed words. Sharing with a group the experiences so gained satisfies a child's need for security, recognition, response, and new achievement.

A Literature Environment

It has been said, "Love of literature must be caught—not taught." The teacher's evident enjoyment, appreciation, and enthusiasm will go far in developing a permanent interest in reading. To make the reading of literature an inspiring and enriching experience, the teacher must know the interests and abilities of each child and have a broad acquaintance with children's literature. A vital necessity, of course, is that she and the children have access to a well-stocked library that will have the old, the "tried and true," and the new.

Literature and poetry should not be confined to the reading class period. It should become a part of the entire program throughout the entire day. The reading-aloud period and the story-telling period provide additional rich literary experiences. Every unit, every season, every holiday, every activity, the change in weather—all are a cue to shared enjoyment of timely stories and poems.

How Do We Present Literature?

A child's first experience with literature is the nursery songs and finger plays enacted for him while he is in the cradle. When children first enter school, their experience backgrounds in literature will range from a rich background with taste, appreciation, and desire for more already established to no experience whatsoever. Parents and teachers should share in the guidance of children's reading and the program should stimulate both in-school and out-of-school reading.



Story Hour Is a High Spot in the Child's Life

The presentation of literature requires the skill and the artistry of the teacher as she helps to bring the characters to life in terms of their settings. For the children, it should be a creative experience as they recreate the emotions and relive the experiences. Too often the presentation has not stressed appreciation and enjoyment. Rather, plots have been dissected, blueprinted, and diagrammed. Stimulating purposive questions preceding the reading arouse interest. The discussions should focus on the high points with the emphasis upon human actions, motives, and reactions in terms of the situation at hand. Inferential and evaluative questions should largely replace factual ones except when they are needed to establish a turning-point in the plot.

Shall We Read Aloud to Children?

The concomitant values of reading aloud to children seem so obvious that it is almost unnecessary to list them. In terms of emotional relationships between teacher-pupil, pupil-teacher, and pupil-pupil, there is no period in the day that can bring greater

satisfaction. It is a period of relaxation—warm, friendly, and informal. Interest in further reading is stimulated through the social situation of sharing a rich experience. New concepts are developed and added power in language is gained.

The teacher's presentation is valuable not only from the viewpoint of stimulation and satisfaction but because of the oral pattern that she sets. A pleasing, well-modulated, flexible voice reading smoothly, rhythmically, and interpretatively, sets an oral pattern that her listeners will unconsciously strive to imitate when they read aloud to others.

This period should be open to children who have found a story they would like to read to the group. Such performance entails careful preparation; poise is fostered through meeting such a social situation successfully. Practice in vocabulary, in rhythm, in phrasing, in interpretation, voice, and breath control is gained in a meaningful situation. For some children the reading of an entire story is too great an accomplishment. For them, the reading of favo-

rite passages, of descriptions, or of conversation may satisfy the need to share.

Enjoyment of literature should not be limited to the reading of stories aloud. The *telling* of stories makes for a warmer, closer feeling of group enjoyment. Children, too, like to retell the old favorites and the language experience is valuable to them.

How Broad Should the Program Be?

In practically every schoolroom, the basic reading and supplementary books provide one source of literature. The use of these for appreciation in direct instruction should set the stage for eager adventure to find many more with parallel themes.

To limit the program to this alone, however, is to deter growth. Wide reading that arises from interests developed from the units and activities on which the pupil is working provides the basis for developing a well-balanced reading diet. History should stimulate the reading of biographies and of stories which, in depicting times and places, make that period assume reality. Geography should stimulate interest in the world-at-large, in travel, in explorers and exploration, customs, family relations, and children's activities in other lands. Science provides a wealth of interests which stimulate the reading of stories about animals, nature, transportation, communication, and the lives of scientists. Art and music make us curious about the boyhood of great composers and painters.

There is a rich storehouse of materials that are read just for the sheer pleasure and satisfaction to be derived from the reading. Fun, fantasy, humor, fairy tales, myths, the old folklore, tales of wonder and magic, of heroism, of daring adventure, should be a part of every child's heritage.

When Do Children Read Literature?

Children should read literature in class, out of class, in school, and out of school. Direct instructional literature periods should be richly supplemented by leisure-time reading.

Learning to spend one's leisure time in the adventure of reading literature is learned only through practice. What more profitable way could be found for a child to spend his free time after his assigned activities have been completed than to read the "library" book in his desk? Free reading periods should be planned when the entire group relaxes and reads for pleasure.

Reading in the home will result largely from teacher and parent encouragement and provision

for it. Not only should home reading be strongly stimulated throughout the school year, but the children, parents, and teacher should plan together ways and means to promote interest in reading literature over the summer months.

When teachers worry over a child's not learning to read or not reading as well as can be expected in terms of his potential ability, the implication is strongly evident that the child does not enjoy reading and does not turn to it voluntarily. It is no mere coincidence that the best readers are those who read widely for pleasure and, in turn, the pleasure gained from wide reading improves the reading ability of the child.

What Shall We Do About Poetry?

Unfortunately too many teachers' experiences with poetry have been such that they themselves do not derive the joy and satisfaction it should bring. In simple terms, poetry is but the author saying, "Look at this beautiful picture with me," "Listen to my story," or "Share this emotion with me." When the viewpoint is taken that poetry is a personal experience to be shared and enjoyed and the reader's personal reaction to the stimulus is the most important objective, poetry comes alive. There is a kind of poetry to meet the needs and interests of every individual. The themes of the poetry presented should range from the humorous to the serious, from the delicate to the robust ballad, from the whimsical and fanciful to the stirring, patriotic deeds of bravery. Every interest, every theme of the school day can be matched in the theme of some poem if the teacher's collection and knowledge of poetry are broad enough.

Poetry reading should not be confined to the poems in the basic books nor should it be confined to the reading instruction period or even to a poetry period presented periodically. If the children are studying Indians, the time to introduce them to Annette Wynne's "Indian Children" is during the social study period.

The question of memorization of poems comes up again and again. From the wealth of poetry available in this world, what criteria are to be found that say this poem must be learned in the fourth grade? Part of the lack of interest in poetry has been caused by the teacher-imposed job of learning by rote a poem which had little personal message or meaning for the child. Memorization will come naturally and spontaneously when children are given the opportunity to choose and to hear certain favorites again and again. At first, they may repeat the refrain;

then one or two may softly say it with the teacher; soon, a child will say triumphantly, "I know it. Let me say it by myself."

One group of children so enjoyed hearing and reading their favorite selections, that one suggested they combine all the poems into one book for their library table, where it would be easily accessible. The idea caught fire and the best writers eagerly offered to copy them in good handwriting and in good form. Others undertook to illustrate each poem. One group worked on designing a cover. At last, the book was put together and the block-lettered title proclaimed it to be "Our Favorites." By the end of the year, the book was literally worn to pieces from the handling as children read and reread each of the poems.

Young children deeply enjoy the rhythm, the music, the rich use of language, and the imagery to be found in poems when some response is touched in their personal background of experience. Our goal should be to promote further such interests and satisfactions so that another avenue of life-long pleasure will be established in the elementary school.

What Shall We Do About Book Reports?

The underlying purpose of the book report will dictate the kind and amount to be done. If it is for the purpose of bookkeeping to record a grade or as a form of test, little pleasure will be derived from it by the children and active dislike for recreatory reading may be engendered.

If the purpose is to give the children opportunity to share their discoveries with others and to stimulate further reading, then book reports can be a valuable addition to the literature program. Children and teacher should plan together varied ways and means to make the period enjoyable and profitable. Informal talks, reading of favorite or dramatic passages, discussion of vivid illustrations, dramatizations of a scene, pictorial illustrations done by a child, puppet shows, making of models or third dimensional scenes, posters, making of clay figures, designing book jackets—all these and many more suggestions will spring from the released and fertile minds of children.

What Shall We Do About the Comics?

If a child reads comics, it is because he is finding something satisfying in this activity. If a child remains on this level for long, it should be a cue to the alert teacher that the situation needs definite

attention and that the child needs to be stimulated and guided to find similar but more worth-while elements in good literature. To condemn without worthy substitution is to dare the child to assert his independence and display it by continuing to read comics either openly or secretly. Calm, objective acceptance of this level of reading in a discussion with the child may elicit the elements that are holding his interest. This information, together with the teacher's knowledge of his interests and his outside activities, may provide a clue to books of good literature which will bring satisfaction. If the teacher has a broad knowledge of children's literature and a well-stocked library, she will be able to recommend two or three with kindred qualities. The child is on the road to good literature when he says, "I liked this book. Are there any more like it?"

One group of children read comics to the exclusion of all literature. To obviate this situation, the teacher proposed that they study all the comics to determine which, if any, seemed to be the best. The children joyfully seized on the suggestion and the classroom was flooded. Simple criteria were set up and the children began judging content, conversation, event, and illustration. It was not long after that, that one child looked up to say, "Why, this is all the same stuff over and over again." The others echoed with, "You're right." As the interest in comics evaporated, the copies vanished from the classrooms and the homes. Once more, the children turned to the library, not because an adult had told them of the meagerness of their reading diet, but because she had led them to discover it for themselves.

SUGGESTED LITERATURE ACTIVITIES

	<i>Interaction and Cooperation between</i>		
	CHILD	TEACHER	PARENT
1. Enjoying literature in basic and supplementary books	X	X	X
2. Enjoying literature related to units and activities	X	X	X
3. Independent reading in out-of-school hours	X	X	X
4. Leisure-time reading in school	X	X	
5. Free group reading periods	X	X	
6. Reading aloud stories and poems	X	X	X
7. Reading and telling dramatic incidents	X	X	X
8. Telling stories	X	X	X
9. Showing and discussing pictures	X	X	X
10. Making pictorial illustrations of scenes	X		

ACTIVITY	<i>Interaction and Cooperation between</i>		
	CHILD	TEACHER	PARENT
11. Making book posters . . .	X		
12. Designing book jackets . .	X		
13. Planning, arranging, and displaying literature in- terests on bulletin board	X	X	
14. Choral speaking	X	X	
15. Dramatizations	X	X	
16. Puppet shows	X	X	
17. Shadow plays	X	X	
18. Movies	X	X	
19. Making models	X	X	
20. Arranging exhibits	X	X	
21. Making clay figures	X	X	
22. Making a frieze or mural	X	X	
23. Making third dimensional scenes	X	X	
24. Book clubs	X	X	
25. Writing book reviews for school newspaper . . .	X	X	X
26. Planning programs for parents	X	X	
27. Planning programs for assemblies	X	X	
28. Preparing book reports for radio programs	X	X	
29. Making anthologies of favorite poems of the class	X	X	

Evaluation of the Literature Program

1. Does the child turn naturally to books in his free time?
2. Is he eager to share his enjoyment with others?
3. Can he discuss intelligently what he has read?
4. Does he have positive likes and dislikes in his reactions to characters and events?
5. Does he encourage others to read the books he has read?
6. Does he seem to be developing a permanent interest in reading?
7. Do his taste and appreciation seem to cause him to ask for better books?
8. Do other interests seem to become evident because of his reading?
9. Does he like to read?
(Only a small portion of the above can be reduced to "paper and pencil" testing.)

WRITING LANGUAGE

Children differ greatly in capacity, backgrounds of experience, and language patterns. Because of these differences, problems like the following arise concerning written language.

- How can we stimulate the growth of the child's written expression?
- How may the needs of individual pupils be met?
- How does the teacher help a child develop originality in his writing?
- How can we teach a child to develop sentences and paragraphs?
- Are there minimum essentials in the accurate use of language that should be attained by every child?
- Why does the child continue to make errors in his written language in other content fields?
- What use may be made of diagnosis as a regular procedure in teaching?

Why Do Children Need to Express Themselves in Writing?

One modern life need is to express oneself clearly, concisely, and effectively in writing. To do this, the writer must have the ability to organize his thinking, possess a broad vocabulary, and have command of the mechanics necessary to make his thought clear to the reader.

Language instruction in school is designed to help children to acquire these necessary abilities. A desire or need to write and a sensitivity to language symbols are essential to good communication. Throughout the school day, numerous occasions arise when a child has need to express his ideas in composition, letter writing, reports, summaries, tests, and the like. Thus, it serves as a tool in social studies, arithmetic, health, safety, and all areas that need or require written response.

The scope of this program is curriculum-wide. The functional writing in the content fields provides, first, practice in the skills which have been developed in the English class period and, second, a means of diagnosis to identify specific errors of the group and of the individual which need attention through direct instruction in the English period.

How Do Children Learn to Express Thoughts in Written Language?

I. FIRST STAGE IN WRITTEN LANGUAGE INSTRUCTION (Early Primary Level)

Basic to all written language instruction is the understanding of the values of recording thought in permanent form. A program which is planned to give the child broad, rich experiences develops the need for written language.

The classroom is a challenging laboratory in which written language is used as a tool to record plans, trips, questions, summaries, stories of pets, daily news, and so forth. Curiosity as to the meaning of the symbols is a stimulant to both reading language and writing language. The desire for writing is greater when the child realizes his ideas are being recorded, and he is happy to hear his thoughts read back to him after they are written. Thus, through the stimulating activities in social studies and science, the child develops a concept of the relationship of written symbols to the ideas he wishes to express.

The extent of written language will be in direct proportion to the need for expression and the opportunity to say it. The reception of the child's effort by the teacher will be a definite factor in encouraging or discouraging expression. A friendly, warm, informal atmosphere based on the teacher's understanding and acceptance of what may be expected at the various maturation levels leads to natural spontaneous written contributions.

At this level, the lack of spelling vocabulary makes necessary cooperative chart stories developed under the guidance of the teacher. A simple word or phrase outline may first be developed to organize the experience in logical sequence. The teacher's questions aid the children to formulate their thoughts into sentences.

Later, these chart stories may be the basis of a reading lesson. As the child grows, too, in handwriting skills, they may be used to develop individual booklets. Creative art illustrations serve to make such booklets attractive to both children and

parents. Thus, written language serves as a tool to unify the total curriculum.

See chart, page 106.

II. SECOND STAGE IN WRITTEN LANGUAGE INSTRUCTION (Primary Level)

As the child grows in spelling skill, he is better able to record his own thoughts. In this early writing the major considerations will be the thought and the spontaneity and naturalness of expression.

Wide variations in abilities may be expected from a single word caption for a picture, to a three- or four-sentence composition. But each contribution should receive the respect of pupils and teachers alike. Opportunities to share and enjoy the individual composition stimulate the writer to further activity and other members of the group to express themselves in writing.

Growth in the skills of written communication does not appear immediately but grows steadily and becomes evident as the child gains knowledge in spelling, punctuation, handwriting, vocabulary, and usage. Through the total program come enrichment of vocabulary, precise selection of terms, and appreciation of language.

See chart, page 106.

III. THIRD STAGE IN WRITTEN LANGUAGE INSTRUCTION (Intermediate Level)

Written language instruction in the intermediate school continues the program initiated in the primary school. The intermediate teacher can carry on her work more effectively if she understands the sequential growth that has brought her children to their present level of achievement. All the minimum essentials that have been learned should be maintained and refined. A broader field of experience will create added needs for further instruction in capitalization, punctuation, usage, and vocabulary development. Through growth in his ability to communicate his ideas to others, the child becomes a more efficient individual in his social living because he is able to write more clearly, concisely, correctly, and effectively.

In some instances, children are asked to write answers to too many questions in the content areas in the preparation of assignments. Unless this writing is considered for quality, content, and form, the children actually learn poor written expression through practicing errors in poor sentence construction, handwriting, and spelling. All written work should be carefully checked in order to provide the

basis for corrective instruction. As the child becomes aware of his specific needs, English instruction becomes alive and vital to him.

Incidental learning will not produce desired competence in correct written language. Direct instruction based on need, accompanied by sufficient practice, aids in developing command of the skills. No intensive practice should be given on those factors which will not be used immediately by the child. The basis for all such learning must be in terms of understanding and use. In all probability, the most ineffective and inefficient language instruction is based on rote learning and memorization.

If the mechanics are introduced to the child at the level when he has actual need for them and can understand why he is using them, little drill will be necessary. Time must be planned, however, to see that the mechanics are developed on the basis of refinement of the children's own written products.

When the child is led to see his own needs or shortcomings, a firm base is built for the developmental and corrective programs. He will become aware of the need for selection of precise vocabulary; sentences that express thought clearly; complete paragraphs; punctuation that will help the reader to understand the meaning; and correct usage that will aid in developing his ideas.

Emphasis upon destructive criticism produces feelings of inferiority and results in a lack of freedom of expression. Children should be guided in terms of constructive comments upon specific needs for improvement. The writing should grow out of the child's immediate environmental experiences in school, in home, and in community. When he has a feeling of having something real to express and the feeling that it will be accepted appreciatively, the foundations of good writing are laid.

See chart, page 106.

Basic Materials in Language Instruction

The basic textbook or workbook has a definite place within the instructional program but too often it is not used to the best advantage. Page-by-page teaching with no reference to the specific group needs results in verbalizations with little application. The basic textbook should be considered as a source of reference or a handbook. The teacher will direct the group to certain parts or pages as their needs for specific development, direct instruction and practice are indicated in the children's daily

writing. The teacher's awareness of sequence and organization of the text makes her able to introduce the various sections of the text into related situations in all other fields. The child should have such knowledge of his text that he himself can use it to find help with his own specific needs.

The use of workbooks should be guided by the knowledge of their values and limitations. They are developed mainly to give practice in the mechanics. When such lessons are assigned, the child should be conscious of the relation of the workbook material to his own needs. Limited space for handwriting in workbooks often causes the child to violate the principles of good handwriting and poor habits may be so formed.

SUGGESTED WRITTEN LANGUAGE ACTIVITIES

ACTIVITY	<i>Interaction and Cooperation between</i>		
	PUPIL	TEACHER	PARENT
Plans	X	X	X
Bulletin Boards	X	X	X
Daily News . .	X	X	X
Signs, Labels, Captions	X	X	
Standards for Group Living	X	X	X
Records of Work . .	X	X	
Room Diary . .	X	X	
Rhymes and Riddles	X	X	X
Building Vocabulary	X	X	X
Outlining, Taking Notes .	X	X	X
Summaries	X	X	
Group Compositions	X	X	
Individual Compositions and Poetry	X	X	X
Descriptions .	X	X	
Plays	X	X	X
Newspaper Articles .	X	X	X
Letter Writing	X	X	X

Plans

The need for cooperative pupil-teacher planning is evident throughout the school day. As plans are developed, simple outlines may be formulated to guide thinking and action at all grade levels. Later, these outlines may be the basis for individual or group compositions on the results attained through following systematic preplanning and organization. (See page 76.)

Bulletin Boards

Bulletin boards containing materials developed in relation to units underway, holidays, community activities, or all-school projects provide an oppor-

tunity for the children to contribute announcements, bulletins, posters, articles, stories, and verse. (See page 50.)

Daily News

The daily news may be developed cooperatively by children and teacher together or the children may undertake to manage this activity independently by working in groups headed by a chairman for specified periods of time. Weather reports, new pupils, a child moving to another area, the serious illness of a classmate, change in bus, lunch, or school schedules provide situations that are both timely and of real interest to the group.

Signs, Labels, and Captions

The use of language to convey a direct message tersely and convincingly is well illustrated when it is used in response to a classroom situation in which there is need to identify an activity, possessions, pictures, displays or to give directions. A sign, "Obey the School Patrol," takes on deeper significance if the children have formulated and prepared it.

Standards of Group Living

As the class works and plays cooperatively through the school day, certain regulations need to be evolved by them which promote courteous and happy group living. Conduct during independent work periods, free periods, on playgrounds, while passing in halls, at the library table, provide situations where group rules are needed for the good of the whole. When the children formulate them, they are much more likely to be accepted and followed. Stimulated, directed, and guided by teacher question and comment, the group can determine for themselves acceptable standards of behavior.

Records of Work

Through the keeping of individual and group records of work under way, children are aided in developing ability to organize in logical sequence. They provide, too, concrete examples of achievement so that the children are aware of what has been accomplished and what needs to be done. Such types of records may range from daily weather records in the first grade to the keeping of thermometer and barometer readings at the sixth-grade level. They may be, of course, concerning any aspect of the day.

Room Diary

The room diary is another type of record of cooperative experiences. It may deal with a specific topic

or it may record simply what the children feel to be the most important school happening of the day. The latter type of record is one by which desirable accounts of school activities are often carried into the home.

Rhymes and Riddles

Such activity as writing rhymes and riddles is a pleasant means to illustrate the pleasure to be derived in writing for personal enjoyment, with the added social values of sharing the product with others. This can be developed as a worthy use of leisure time after assigned responsibilities have been completed.

Building Vocabulary

Since children need broad, rich vocabularies to aid them in expressing thought, various lists should be compiled cooperatively in all areas of the curriculum throughout the school day. Sensitivity to and curiosity about new words provide rapid growth in the ability to make increasingly fine discriminations in the selection of words.

Outlining, Taking Notes, and Summaries

Since comprehension is the basis of all learning and retention, direct instruction is needed in the most efficient ways to organize information. The material for such instruction will be the units in the content fields, and the basic and supplementary texts will provide the source of information to be so organized.

Group Compositions

The building of group compositions should be a part of the English experiences at every grade level. Social learning is emphasized and thinking is stimulated as the members of the group debate choice of title, precise selection of vocabulary, structure of sentences, capitalization, punctuation, usage, and good form.

Individual Compositions and Poetry

When children have achieved sufficient facility in handwriting and spelling, the real feeling of authorship begins. Sharing personal experiences, beauty seen and felt, flights of fancy enrich one's own personality and bring pleasure to others. Again, this may be developed as a worthy use of free time.

Descriptions

A picture may be created as truly with words as an artist creates one with his brush. Sensitivity and appreciation of this ability can be developed through directing attention to excellent descriptive

passages encountered in reading. As one child attempts to create for another a bit of beauty experienced perhaps on a walk in autumn, the need is very great for vivid, colorful words. Pictorial representation of a description is another excellent means to make evident the need for a rich vocabulary.

Plays

Developing plays may be a cooperative activity of teacher and group, or of a small independent group, or the worthy use of free time of an individual child. The topic may range from a story enjoyed by the group to an imaginary one stimulated by social study interests. Such plays need not be confined to the character-audience situations but may include shadow plays, puppetry, movies, slides, and the like.

Newspaper Articles

This type of activity gives the child an opportunity to evaluate and to summarize his own most important experiences. The writing of editorials gives expression to emotion and can aid in character development. Broadening the scope to include most of the types of writing found in an actual newspaper helps the pupil to learn to express himself clearly, concisely, and effectively. In spite of the fact that most of the material is factual, the child learns how to convey the underlying emotion demanded by the content. Illustration of the latter may well be an exciting ball game, the lost and found column, an advertisement of a school play, the account of a school trip, or the treasurer's report of the Junior Red Cross. Pictorial representations such as cartoons and stick figures, add much to pupils' and parents' enjoyment.

Letter Writing

Letter writing should be a real and meaningful activity for children. Situations arising from social or business need and based upon the actual experiences of the group, provide learning situations which promote social growth. Letters may be cooperatively developed by the entire group at every grade level, by a small group, or by a selected individual. The emphasis should be on content, but appropriate good form is studied carefully at all levels in order to have the content receive consideration by the reader.

Children should, with the teacher, compose letters requesting material, but it should be noted that such requests should be sent over the signature of the teacher or principal, and materials received should usually become part of the class library. Such letters reflect the standards of the school and should therefore be carefully written in correct form.

Evaluation of the Written Language Program

I. THE CHILD EVALUATES HIS GROWTH

1. Can I say what I mean?
2. Can I write a good sentence? paragraph? article? story?
3. Can the others understand what I write?
4. Do I know how to use the capitals and the punctuation that I need?
5. Do I try to use only the best English I know?
6. Is my work neat and in good form?

II. THE TEACHER EVALUATES THE CHILD'S GROWTH

1. Does he turn naturally to written language?
2. Does he have a fairly wide vocabulary?
3. Is he fairly precise in his choice of vocabulary?
4. Can he write clear word pictures?
5. Has he learned to formulate good sentences?
6. Does he know how to develop paragraphs? articles? stories?
7. Has he a knowledge of punctuation and capitalization necessary for grade level?
8. Is he fairly consistent in his choice of acceptable grammatical patterns?
9. Does he use good form?
10. Does he try to produce good writing?
11. Does he realize the value of written expression?

DEVELOPING SKILLS IN WRITTEN EXPRESSION

Skills Developed Functionally in Answer to Need Arising Out of All School Activities

	GRADES					
	1	2	3	4	5	6
Acquires readiness and a desire to write	x					
Prints name, labels, captions	x	x	x	x	x	x
Helps build group compositions	x	x	x	x	x	x
Copies words, sentences, group compositions	x	x	x	x	x	x
Handwriting and Spelling						
Learns to print all letters of alphabet from memory	x	x				
Learns to write all letters of alphabet from memory			x	x		
Learns to spell words needed in writing	x	x	x	x	x	x
Spells with high degree of accuracy in written work				x	x	x
Writes with acceptable quality:						
For 6-7-year-old	x	x				
For 8-9-year-old			x	x		
50-60 words a minute for 10-11-year-old				x	x	x
Writes from dictation				x	x	x
Writing Activities						
Writes letters:						
Invitations	x	x	x	x	x	x
Thank you	x	x	x	x	x	x
Permission	x	x	x	x	x	x
Friendly	x	x	x	x	x	x
Business	x	x	x	x	x	x
Addresses envelopes		x	x	x	x	x
Writes stories, anecdotes, news articles, editorials			x	x	x	x
Writes poetry		x	x	x	x	x
Writes announcements, bulletins, advertisements				x	x	x
Makes lists				x	x	x
Keeps records, charts			x	x	x	x
Writes reports:						
Informational				x	x	x
Book				x	x	x
Secretary				x	x	x
Treasurer				x	x	x
Keeps personal or room diary			x	x	x	x
Writes legends for pictures, models, exhibits				x	x	x
Makes outlines				x	x	x
Takes notes					x	x
Proofreads own materials			x	x	x	x
Capitalization						
I	x	x	x	x	x	x
Days, weeks, months			x	x	x	x
Holidays			x	x	x	x
Beginning of sentence	x	x	x	x	x	x
Beginning each line of poetry			x	x	x	x
Salutation and close of letter			x	x	x	x
Abbreviations		x	x	x	x	x
Names and titles as needed		x	x	x	x	x
Proper nouns		x	x	x	x	x
Outlining				x	x	x
Punctuation						
Period:						
After statements	x	x	x	x	x	x
After imperative sentences				x	x	x
After abbreviations			x	x	x	x
After initials			x	x	x	x
In outlining				x	x	x
Question Mark	x	x	x	x	x	x
Exclamation point:						
After exclamations				x	x	x
After strong interjections				x	x	x

	GRADES					
	1	2	3	4	5	6
Comma:						
In dates			x	x	x	x
Salutation in letter	x	x	x	x	x	x
Close of letter	x	x	x	x	x	x
Word in address					x	x
In series					x	x
Before and after quotation				x	x	x
Names of persons spoken to				x	x	x
After "yes" and "no"				x	x	x
Last name preceding first				x	x	x
Between names of city and state				x	x	x
Colon:						
After salutation in business letter			x	x	x	x
To introduce a list				x	x	x
To separate hours and minutes		x	x	x	x	x
Apostrophe:						
Contractions		x	x	x	x	x
Possessives				x	x	x
Quotation marks:						
Exact words of speaker				x	x	x
Title of story, poem, song				x	x	x
Hyphen:						
To syllabicate words				x	x	x
To divide word at end of sentence			x	x	x	x
Underlining:						
Title of Book				x	x	x
Dash:						
Between numbers in page reference				x	x	x
Usage						
Understands as much grammar as needed to speak and write correctly				x	x	x
Noun:						
Recognizes				x	x	x
Common and proper nouns					x	x
Singular and plural				x	x	x
As subject						x
As direct object						x
Possessive forms				x	x	x
Pronoun:						
Recognizes					x	x
Uses correctly			x	x	x	x
Singular and plural				x	x	x
As subject and compound subject						x
As direct object						x
Possessive forms						x
Verb:						
Recognizes action and pure verbs				x	x	x
Recognizes verb phrases					x	x
Principal parts						x
Agreement with subject			x	x	x	x
Adjective:						
Recognizes				x	x	x
Descriptive				x	x	x
Article				x	x	x
Proper				x	x	x
Comparative				x	x	x
Effective usage			x	x	x	x
Adverbs:						
Recognizes				x	x	x
Effective usage			x	x	x	x
Comparative						x
Preposition:						
Recognizes						x
Uses correctly						x
Phrases						x
Conjunction:						
Recognizes <i>and</i>						x
Uses coordinate						x
Interjection:						
Recognizes and uses						x

HANDWRITING

In all probability, the numerous questions asked by the classroom teacher concerning the teaching of handwriting would be associated with one or more of the following which are covered in this section:

- When do we begin handwriting instruction?
- Shall we use manuscript or cursive writing?
- How do we present the alphabet?
- When is the best time to make the transition from manuscript to cursive writing?
- How do I teach writing to a left-handed child?
- What are the standards for good handwriting today?

Why Do Children Need to Learn Handwriting? When?

A child will have a greater interest in writing and, therefore, a keener desire to learn the process when it is used in a meaningful experience in which he is engaged. When he finds it necessary to place his name on one of his possessions, he is participating in a functional activity which gives more meaning to writing and he will put forth a greater effort to succeed.

Although writing is often regarded as a mechanical performance, it is essentially a thinking process. The child must be able to see the relationship between his ideas and the symbols used to record them. To this concept must be added the ability to recall and to retain the visual images of the writing forms. And with all this, he must have the muscular coordination necessary to form the letters.

Every meaningful situation must be utilized in the early school years, if the relation of thought to the written symbol is to be understood by the child. Writing "Thank You" and "Get Well" notes, invitations, requests, slogans, greeting cards, and weather reports are activities through which handwriting may be made purposeful. Since the teaching of writing is for the expression of thought, it becomes an integral part of the entire school program.

Writing is an individual skill and the degree of competence attained in it is greatly influenced by temperament, stage of development, state of health, energy, and need for expression. As a consequence, equal performance cannot be expected of all persons at all times. Today, the criteria for good handwriting are legibility, ease of performance, and

rapidity. As the child develops competence in handwriting skills, an increase in speed and a greater showing of individuality become evident.

How Children Learn to Write

They Come to School

Maturation level of development is a basic consideration in handwriting. Handwriting requires the development and coordination of the small muscles of the hand and eye. In order to make such skilled movements, the child must have attained a fairly fine degree of muscular coordination. Few children achieve sufficient neuromuscular coordination to write with a pencil before their sixth or seventh year and with pen and ink before their tenth year.

The teacher of the child of six may determine the child's readiness for writing by having him copy simple geometric figures. If he cannot copy a diamond or a square successfully with a pencil, it would be wise to provide him with activities for further development of the small muscles and for eye-hand coordination. Suggested activities may be jig-saw puzzles, copying forms and figures, tracing, cutting, etc. (The purposes of tracing should not be confused; they do not include art objectives.)

Handedness

Almost all children have established their hand preference by six years. If a child has not done so, the teacher should observe closely his preference in throwing a ball, cutting, etc. Constant use of the right hand is encouraged unless he shows a real tendency to use the left. In that case, he should be encouraged to use the left hand only. No attempt to change the handedness of a definitely left-handed child should be made without the recommendation of a school psychologist.

Values of Manuscript Writing

According to authorities in the field of handwriting, the advantages of manuscript writing seem to be:

- It is easier for the child to learn because of its simple structure of straight lines, circles, and parts of circle
- It makes success in handwriting possible for children with immature muscular control
- It can be learned with less nervous tension, and therefore causes less fatigue

Feeling of success is gained early in the learning process

It can be used earlier as a tool in the unified program in the writing needs arising in science, social studies, and arithmetic

The similarity to print makes reading and writing closely associated subjects and facilitates children's growth in beginning reading

First Handwriting Experiences

The blackboard is preferred for the initial practice for form in both manuscript and in the later cursive writing. When the child gains control of writing skills on the blackboard, transfer may be made to writing at his desk. In conformance with muscular needs of the six-year-old, the large pencil or crayon is used on large sheets of unruled or widely spaced ruled paper. The use of a guide line is a "crutch" which the child uses as a means to judge size. This judgment can be taught from the very beginning.

The child who is dominantly left-handed has no more difficulty than the right-handed child when writing on the blackboard. When the change is made to desk writing, however, his paper should be placed at an angle that will bring the upper right-hand corner in line with the mid-line of his body. This position is the opposite of that used with the right-handed child and prevents him from writing with his hand above his line of writing.

Presentation of the Alphabet

The words and sentences of the chart stories that arise from group experiences are dictated by the children while the teacher writes them rapidly on the blackboard. Through this process the children observe the value of writing to record thought and at the same time become aware of: (a) left-to-right progression, (b) the relationship of words to sentences, (c) the relationship of letters to words.

Individual and group experiences are valuable, too, to make evident to the child the need for knowing how to make certain letters and to make evident to the teacher the order of presentation. The writing of labels, the captions for pictures, and the writing of a name to identify possessions call for certain letters to be taught as the need arises.

The letters of the alphabet are first learned, then, not in the formal sequence, but as the need arises to record a word or words in group or individual situations. The most common letters will, of course, be learned first because they recur most often, but by the end of the first year almost all of the chil-

dren will be able to recognize and to make all of the small and capital letters.

At the beginning of the second year, the teacher will make careful check to determine whether a child knows each letter of the alphabet by sight and can make each letter. In addition, if the child does not know the correct order of sequence and the approximate location of each letter in relation to the whole, definite instruction must be given. This further ability must be developed as a readiness for learning to alphabetize, which in itself is a prerequisite to later instruction in dictionary usage.

When Do We Add Cursive Writing?

Readiness for this transition has been reached when the child has reaped the benefits derived from the use of manuscript writing and is mature enough to use necessary muscular control. By all means, the child should have a firm foundation in beginning spelling before this transition is effected. Modern practice indicates that the approximate time is during the last half of the second year or in the third year, after the children have become oriented to their new surroundings and procedures. It is unwise to make the change at the beginning of the school year because the children have too many other adjustments to make at this time. *Cursive writing* becomes an added skill and not a replacement. Manuscript form will be maintained for use in making graphs, maps, charts, and for any other use that may be desired.

The transition from the common use of manuscript writing to the cursive does not entail a disturbing problem for the child when he is physically adequate to the more refined muscular coordination. Not all children will reach this stage of development at the same time.

When the pupils are making the transition, direct instruction is necessary for learning correct forms. The children, stimulated by the teacher, analyze the formation of letters and note the characteristics of them before they attempt to make them. As was true in manuscript, the alphabet is not taught in sequence. The unit is the word; and as soon as possible children should be writing a meaningful sentence arising from their own experience.

During the transition period, children may continue using the manuscript form in unsupervised writing until they have attained ease of reading and writing the cursive form.

Setting Up Standards

Acquiring and maintaining good letter forms cannot be accomplished incidentally. Together, teacher

and pupils analyze the individual and group difficulties and needs. Errors in all written work should be noted, for these form the basis for the corrective instruction. Desired general standards should be formulated by the group and used in personal, critical self-evaluation.

Correct forms of cursive writing should be in evidence for reference. Modern trends place emphasis on legibility, speed, and individuality. When the children form the habit of evaluating and criticizing their own work, acceptable handwriting is usually practiced in all purposeful writing. Commendation on improvement or effort to improve will be a factor in promoting and maintaining good writing.

How Handwriting Functions in the Total Program

Helping the child to appreciate handwriting as an effective tool for expression of thought must be continued throughout the school years. An increased number of meaningful situations which require handwriting should be provided for developing fluency. In the unified program the child will need to write notes, outlines, reports, and compositions in all the content and skill areas.

He will be handicapped in participating successfully in these writing situations unless he is able to record his thoughts, and the thoughts of others, easily and rapidly.

Many of the so-called spelling problems are caused by handwriting difficulties. When a child makes no differentiation between his *a's* and *o's*, *e's* and *i's*, *m's* and *n's*, or *u's* and *w's*, his spelling will be misinterpreted, even though his knowledge of the spelling is correct.

Choice of Materials

A broad use of materials will include blackboard usage, pencil and paper at all grade levels. In the upper grades, blackboard demonstration is valuable for the purpose of class analysis to anticipate errors in letter formation.

The muscular coordination of the child and the choice of available materials dictate the introduction of the use of ink. In general, most ten-year-olds are able to undertake this further refinement if they are provided with paper of good quality, broad pen points or fountain pens. Cheap paper and fine steel pens are not used in life situations; they make it almost impossible for the child to write easily, legibly, and rapidly.

The typewriter has come into use in many classrooms. It provides a rapid method of recording thought, and evidence indicates greater conscientiousness both in form and spelling result from its use. However, its use is supplemental and not that of replacement. If typewriters are available, it is best to teach proper finger placement in order that correct habits be instituted from the beginning.

FUNCTIONAL WRITING EXPERIENCES

WRITING	Interaction and Cooperation between		
	CHILD	TEACHER	PARENT
Letters	X	X	
Logs and Diaries	X	X	X
Personal Budget	X	X	X
Minutes of Club Meetings ..	X	X	X
Original Stories	X	X	X
Outlines	X	X	
Summaries	X	X	
Arithmetic Papers	X	X	
Spelling Sentences	X	X	
Lists of Plans for Field Trip ..	X	X	
Lists of Questions to Guide Reading in Content Fields ..	X	X	
Records of Information Gained on Field Trip	X	X	
Booklet Material	X	X	
Articles for School Paper ..	X	X	X
Labels for Graphs, Maps, Charts, Diagrams	X	X	
Posters	X	X	
Announcements	X	X	
Captions	X	X	

Evaluation of the Handwriting Program

I. HOW DOES THE CHILD EVALUATE HIS OWN HANDWRITING?

The child derives great benefit from evaluating his own handwriting and in helping to direct his own improvement. A group-formulated chart helps to make him aware of his needs. Filing written materials at definite intervals makes progress evident and provides the basis for stimulating further work.

1. Do I do my best in all of my writing?
2. Do I sit comfortably when I write?
3. Do I form my letters correctly?
4. Are the letters and words properly spaced?
5. Do I write large enough so my writing can be read easily?

II. HOW DOES THE TEACHER EVALUATE GROWTH IN HANDWRITING?

1. Does the child have an appreciation of the value of handwriting as a tool to express his thoughts?

2. Does he take pride in his ability to express his thoughts and ideas in good written form?
3. Does he write legibly?
4. Does he write with such ease and rapidity that the mechanics of handwriting are subordinate to the thoughts and ideas which he wishes to express?
5. Do teaching plans provide a way in which the child discovers and corrects his own handwriting errors?

SPELLING

Although spelling instruction has received much emphasis in our elementary schools, pupil achievement too often is below standard in spontaneous written expression. The following questions indicate common classroom problems:

1. Why is a child often unable to spell correctly the words he needs in writing, when he can usually spell his weekly spelling list correctly?
2. What are some good methods of helping children to recognize their spelling needs in order to develop real interest in spelling?
3. How should the words for the daily spelling lesson be chosen? How can such a list be adapted to individual needs?
4. How can school experiences motivate and strengthen spelling skills?
5. On what basis should supplementary words from content units be required of all children?
6. How can the teacher help the child to evaluate his own progress in spelling? What are some good ways of recording the child's progress? What other evaluations of individual and group growth in spelling may the teacher need?

The Need for Good Spelling

Writing to communicate one's thought is blocked unless one has the ability to spell those words which are used to frame the ideas or concepts. For the writer, surety of form is an aid in expressing ideas quickly, clearly, and effectively. Automatic control of the spelling form releases the mind to concentrate upon precise selection of vocabulary, logical organization of thought, and correct form. For the reader, any deviation from the correct form may prove to be a block to comprehension.

Throughout the school day, many of the activities arising in the content fields require or stimulate the child to express his thought in writing. These situations indicate that not only is the need for good spelling curriculum-wide but that spelling instruction is an integral part of all content fields.

When Should a Child Begin to Learn to Spell?

As is true in all learning, the rate of growth in spelling ability will be influenced by the felt need, the interest, and the readiness of the learner. Through individual and group experiences in learning to spell one's name, writing captions for pictures, labels, notes, invitations, individual and group chart stories, the need for spelling is established and its concept as a tool of handwriting is developed in natural situations.

Throughout the first year, the child learns to spell many words because he has a need for them to express himself in writing. The teacher may keep a list of words frequently asked for by children on the blackboard as a source for their ready reference. Too, children may be encouraged to look for words in stories they have read or in the vocabulary lists in the back of their readers. Such spelling learning is incidental, however, and no direct instruction should be instituted at this time.

The introduction of direct spelling instruction too early in the school life of the child may produce unsatisfactory results in both spelling and reading. If attention is centered upon individual letters of words before the child is reading smoothly, easily, and interpretatively, word-by-word reading may be caused. The following criteria may serve as a guide "when to begin":

1. Is the child easily getting the meaning of what he reads?
2. Is his oral reading smooth, rhythmical, and interpretative?
3. Has he mastered a basic sight vocabulary of approximately 200 to 300 words?
4. Does he have the visual discrimination necessary to see the likenesses and differences in words?
5. Does he have the auditory discrimination necessary to hear the exact likenesses and differences in words?

6. Is he meeting situations in which he feels a need to express his thoughts in writing which makes the use of spelling necessary?

These conditions are met, in general, when a child is reading second-grade basal reading material satisfactorily. Due to the educational loss of the summer months, many children are not ready to profit from specific spelling instruction at the beginning of the second school year. If a review period of first-grade materials is necessary, direct spelling instruction should be delayed until the reading achievement will not be harmed by emphasis upon isolated words.

Developing an Effective Spelling Program

A spelling word will not become a part of the child's automatic writing vocabulary unless it is within his comprehension, speaking, and sight recognition vocabularies. Retention is maintained through practice in meaningful usage. The presentation of the spelling words must include a check for sight recognition, correct pronunciation and enunciation, and the development of the meaning or meanings of multi-meaning words.

One phase of the reading program is the instruction designed to develop independence in word analysis. The same techniques that aid in the pronunciation of a "new" word should be used by the child in spelling analysis before any writing is attempted. Thus the reading and spelling programs serve to maintain and reinforce each other.

During the word-analysis work with the teacher which precedes the writing of a word, the child should learn to:

- Progress from left-to-right in the scanning of letters
- Note small known words
- Note familiar prefixes, suffixes, and endings
- Note known phonic elements
- Recognize the likeness to a known similar form
- Note the exact difference from a known similar form
- Identify the unknown parts for intensive study
- Build variants and derivatives from known words
- Use correctly different forms of a word
- Apply the principles of syllabication
- Consult the dictionary to find meanings, correct pronunciation, and the use of abbreviations
- Recognize the effect of accent on the pronunciation of words

Teachers have tended to overemphasize the visual aspect of spelling. All individuals are not "eye-minded" and the limitation of spelling instruction to the visual approach may result in spelling disability for some pupils. A broad instructional program will utilize the visual, the auditory, the speech, and the tactile-sensory approaches. This will make it possible for the child to determine for himself the method of learning most efficient for him.

Sheer copying of spelling words is a meaningless activity in which no thinking is taking place and errors are often caused by boredom and fatigue. Each time that a word is written, it should be a thinking situation, with no form before the child for copy. Immediate check should be made, moreover, to determine the correctness of the reproduction.

What Words Should Be Presented for Mastery?

To the basic list supplied by the basic speller should be added words which arise from all the writing situations throughout the school day. Limitation to a basic list of words limits growth in spelling ability and achievement. Teacher and children should list together the words which will be needed in writing in the content fields and in any English activities.

There are, of course, some needed words which are not appropriate for spelling lists. These should be written on the blackboard so that children may refer to them, or children should be taught to verify the spelling of a word by referring to their books.

In addition to the group supplementary spelling lists, each individual child will have need to develop his own individual spelling vocabulary. His spelling list will be representative of his personal needs in terms of review, maintenance, and additional new spelling words needed by him in writing situations.

Plans should be developed cooperatively by the pupils and teachers for the keeping of the spelling vocabulary in some type of permanent and easily accessible record or file. Alphabetical lists and card files provide means of ready reference to check the correct form.

Dictionary instruction, which should begin in the fourth grade, should include the use of the dictionary as a tool in the achievement of correct spelling. The habit of quick reference to the dictionary in the case of uncertainty will aid in the extension of the automatic spelling vocabulary.

Should Spelling Instruction
Be Differentiated?

Varied abilities are as evident in spelling as in all other fields of learning. Those children who have a high degree of control of correct form should not only be permitted but encouraged to spend the spelling study period in other worth-while activities. Other children may not be able to handle the class assignment profitably. After an analysis of their specific errors, their instruction should be in terms of their specific difficulties and weaknesses, and instruction should be given that will aid them in developing independence in analysis. When a test indicates that the instructional level of the child is lower than his assigned grade level, spelling instruction should be given at his achievement level. A second source of differentiation in the presentation of the spelling vocabulary is to use one of the lists of the most commonly recurring words.

Lists of the most commonly recurring words in writing and reading (standardized lists of high frequency recurrence) have been compiled by Dolch, Rinsland, Gates, Thorndike, Horn, and Krantz.¹ Many teachers have reported that such lists are of great value not only in supplementing the basic list but also for use as a basic vocabulary in the teaching of remedial spelling.

All children should have spelling instruction at that level where it is possible for them to grow and to experience success.

SPELLING ACTIVITIES

	Interaction and Cooperation between		
	PUPIL	TEACHER	PARENT
SOURCE LIST FOR STUDY			
The basic list in spelling series in use	X	X	
Standardized list of high fre- quency recurrence	X	X	
Specialized vocabulary lists			
Geography	X	X	
History	X	X	
Science	X	X	

¹See bibliography, page 117.

	Interaction and Cooperation between		
	PUPIL	TEACHER	PARENT
Arithmetic	X	X	
Health, etc.	X	X	
Art	X	X	
Music	X	X	
List of group needs	X	X	
Individual list	X	X	X
SPECIAL STUDY ACTIVITIES			
Pronunciation	X	X	X
Sharing and interpreting meanings	X	X	
Word analysis	X	X	
Sentences	X	X	
Word building	X	X	
A TOOL IN ALL WRITTEN LANGUAGE			
Within the school	X	X	
Within the home	X		X
RECOGNIZING GROWTH IN SPELLING			
Charts	X	X	X
Graphs	X	X	X
In written language	X	X	X
Individual lists	X	X	

Evaluation of the Spelling Program

How Do We Evaluate Growth?

- Does the child recognize the value of spelling as a tool?
- Does he have a desire to use correct spelling?
- Does he have pride in achieving correct spelling in all written situations?
- Does he have accurate pronunciation and clear enunciation of words?
- Has he developed a systematic method of word analysis?
- Has he developed a systematic method of study?
- Does he assume responsibility for mastering the words he needs as an individual?
- Does he have the ability to spell correctly in all writing situations?
- Does he have the ability to recognize correct and incorrect spelling of words?
- Is he critical of spelling at all times?



A Good Library Opens New Worlds to Children

LIBRARY FACILITIES—THEIR IMPORTANCE, TYPES, AND OPERATION

The teacher of the elementary school no longer speaks of assignments in terms of pages in a text-book but rather in terms of the planning of units; of solving problems; of activities to be carried out; and of various types of information to be located. To these ends, there is an ever-increasing need for many books, pictures, recordings, and other audio-visual aids. No elementary school program can therefore be complete unless children are given opportunities for the satisfying experiences that worth-while books and other library materials bring to their receptive minds.

No matter at what level the pupil may be today, no matter how far he will go through school, he will be meeting problems that require the ability to gather and to use information. Establishing the library habit in early school life means that the

pupil will be able to use it as an effective tool throughout his later school years and throughout life.

The educational philosophy, along with the size and financial ability of the school and community, will determine to a great degree the type of library service that will be provided. The objective must be more than a desirable collection and organization of books and materials. The important aim must be to make the library service functional to both teachers and pupils. It must be available wherever and whenever the operation of the curriculum demands. To deny children the use of library materials at a certain propitious time in the school day just because it is "not the library period" would hardly be consistent with desirable practices in a good curriculum.

The right kind of library service should result in these outcomes:

1. Creation of an interest in reading and a desire to read.
2. Realization of the value of books and materials and their proper care.
3. Stimulation of the value of research.
4. An appreciation of the culture of the past and of our social heritage.
5. Building character and citizenship through worth-while vicarious experiences.
6. Creation of better intercultural attitudes through a better knowledge of people of other cultural and racial backgrounds.
7. Provision for leisure time.
8. Enrichment of the curriculum.
 - a. By providing a well-selected collection of books for recreational reading.
 - b. By providing reference material such as encyclopedias, atlases, unabridged dictionaries, and books for collateral reading.
 - c. By supplying supplementary audio-visual materials.
 - d. By making available magazines most interesting to children.
 - e. By instruction in library techniques, such as the use of a card catalog and how to take out books.
 - f. By helping children to choose books best suited to their abilities and interests.
 - g. By giving children an opportunity to discuss books and to share their experiences.

Suggestions can be made in regard to three types of situations in Pennsylvania where organization of library services provides maximum functional use of library materials.

1. *In schools where a central library is possible or is now a part of the school plan.* A central library with a trained or responsible librarian is valuable for the elementary school, particularly in handling requisitions, purchasing, accessioning, classifying, cataloging, distributing, and issuing books. It must be pointed out that even in schools with central libraries, it is desirable to have, in addition, classroom libraries. This is especially true in the kindergarten and primary division where younger children use books for shorter periods and at more frequent intervals. In the intermediate grades, the classroom libraries may consist only of the books most frequently used or that fit the unit then in prog-

ress. The books may be shifted back and forth or from room to room. Older children may be trained to assist the librarian in many phases of library service (embossing, grading, inventory, book plates and book cards and pockets).

The central librarian is also valuable to the teachers and pupils in giving instructions in the selection of books, introducing new books of merit, setting up book displays, arranging for Book Week observance, and organizing library units. Because of the many excellent books on library techniques, it is not necessary here to attempt to outline the technical and mechanical processes used by the librarian. Neither is it necessary to explain the various types of central library organization. It is necessary, however, to keep in mind that books must be available whenever and wherever the needs and interests of pupils demand.

2. *In schools where classroom libraries are the only solution or where classroom libraries are part of school policy.* Here the classroom libraries may be an extension of a central library in which the services of a responsible librarian are available. If the classroom libraries are operated independently of a central library, the responsibility of the teacher or administrator is increased. Here one person or a committee must be responsible for the minimum duties of a librarian. The list of titles given at the end of this section will be valuable in attaining information concerning technical and mechanical processes, sources for purchasing supplies and sources for selecting and purchasing children's books.
3. *In schools where the traveling library only is available.* A traveling library can be defined as a collection of books lent for a stated period by a library or other organization to a school or a group of schools. Its chief characteristics are its temporary location and the ease with which it can be transferred from one school to another. In this type of library service, a collection (usually 50 books) is made up at a central point from requests submitted and then lent to a school for a period of time (usually 6 months) after which it is returned to the central location for redistribution to other schools. This service can be supplied by county or municipal libraries; by organizations such as parent-teacher groups and alumni associations; or by high school or school district libraries.

Since the State Library at Harrisburg is enjoined by the Administrative Code to serve public libraries only, traveling libraries are loaned by the State Library, Extension Division, to small public library centers (not schools) in rural communities where there are no county or municipal libraries. Any teacher, however, by reason of being a citizen of the Commonwealth, may arrange (in accordance with certain regulations) to set up a station for a State traveling library in a private dwelling, a store, a post office or other public place where all people can have free access to the books at least twice a week the year round.

Other variations of the traveling libraries are "box libraries" and the "bookmobile." Box libraries of selected books are made up at the beginning of the year and circulated (usually by bus drivers) from school to school (in rural areas), on a fixed schedule, until the end of the school year when they are returned to the central location for repairs and replacements. A "bookmobile" is in itself a complete library on wheels which travels from school to school; from it children (or adults) may borrow books at stated intervals. "Box libraries" or "bookmobiles" are not furnished by the State Library, Extension Division, at Harrisburg, but "bookmobiles" may be furnished by county or municipal libraries.

Teachers in rural areas who do not have adequate library service do well to investigate the possibilities of establishing a county or regional library. Refer to the Laws of Pennsylvania relating to the Establishment of Free, Public, Nonsectarian Libraries. A copy of the laws and other information can be obtained from the State Library, Extension Division, at Harrisburg.

INFORMATION RELATIVE TO LIBRARY SERVICES

State Library Extension Service

1. The Lantern Slide Section, State Library, Department of Public Instruction, has 65,000 lantern slides (3¼" x 4") in ten subject divisions (art, biography, geography, health, history, literature, mathematics, music, science, and special days and weeks) which can be borrowed by mail by teachers and administrators

for use in schools. Write to the Lantern Slide Section for application blanks and for lists in the fields desired. This Section is also building up a supply of strip films.

2. The Extension Division, State Library, Department of Public Instruction, Harrisburg, Pennsylvania, will lend reference material to schools by mail. This includes books, magazines, and pamphlets. Loans are made from the Extension Division in places where there is no local public library; otherwise, requests are to be made to the local public library, which in turn is served by the State Library. Registration cards are issued to a school center (not to teachers or students). Each school should have one center to which all materials needed by either pupils or teachers may be sent. The number of books drawn at any time shall not exceed five. Ten books may be sent to one-room rural schools. The loan period is one month. There is no fee for registration, but borrowers are responsible for postage, both ways, by insured parcel post.

Teachers who are residents of communities not served by a local public library may register with the State Library as a "non-resident borrower." This privilege is granted to all citizens of Pennsylvania. No cards are granted to pupils of school age or students in schools and colleges since these needs will be cared for through the school or college library or through the principal of the school or during vacation through the parents.

3. The Extension Division, State Library, Department of Public Instruction, Harrisburg, Pennsylvania, will answer any reference question or will give information concerning the technical and mechanical operation of libraries.

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Barnes & Noble, Inc., 105 Fifth Avenue, New York, N. Y.

The Baker & Taylor Co., 55 Fifth Avenue, New York, N. Y.

The Book Supply Co., 564 W. Monroe Street, Chicago, Ill.

The H. R. Huntting Co., 100 Chestnut Street, Springfield 5, Mass.

Wm. W. Bains Book Shop, 1617 Sansom Street, Philadelphia 3, Pa.

Library Supply Houses

Demco Library Supplies, Madison, Wis.

Gaylord Brothers, Syracuse, N. Y.

Library Bureau Division, Remington Rand Business Service, New York and Boston.

NOTES FOR BULLETIN 233-C

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NOTES FOR BULLETIN 233-C

CHAPTER IV

Social Living

The Fields of the Social Sciences and the Natural Sciences

HOW TO USE THIS CHAPTER

THIS CHAPTER contains outlines of units which cover the fields of the social sciences and the natural sciences for all elementary grades. Some units involve material from the fields of geography, history, civics, and natural science. Some units involve only two or three of those fields, some only one. It was felt that any integration forced for the sake of maintaining a pattern was as poor practice as failing to integrate where the materials could most sensibly be approached together. The unit method, however, involving pupil participation in planning, executing, and evaluating is consistently recommended. Method objectives are considered as important, probably more important than the subject matter objectives.

General unit areas are given for each grade. Within those general areas each school should develop its own organization, sequence, and much of its content, particularly since many units involve local material. The general understandings, concepts, and abilities should be common to all, but the actual subject matter used to reach those understandings may vary widely.

A general bibliography which all teachers will find useful is given on pages 156-163. Suggested bibliographies suited particularly to grades four, five, and six are given at the end of each of those grade sections. Materials and equipment lists for all sorts of "making" activities, for science, for maps and globes, and for references are given in the Appendix. See also the chapter on Audio-Visual Aids and the section on Libraries in Chapter III.

Activities for Installation Period

It is suggested that each faculty or school district work on several of the aspects of the following seven activities by means of:

Faculty meetings, led by superintendent, assistant superintendent, supervisor, director, curriculum coordinator, building principal, or key teachers
District meetings, or meetings which include several districts

Planned observations by teachers of classrooms in their own or other districts

Workshops, non-credit

Planned off-campus courses or workshops for college credit

Experimentation, accompanied by constant evaluation and necessary replanning.

Activities for Teacher Groups

1. This material, pages 123-155, should be studied and discussed by teachers of all grade levels together since it contains the background and basic considerations used in the selection of the method and content outlined for all grades.

2. It is suggested that the material herein outlined may easily be installed through the first four grades at once. The plans for children now in the fifth and sixth grades should be made carefully during the period of transition from one course of study to another, lest they waste time in undue duplication. Each district or supervisory area should work out these "transition" plans for itself. The children who use this course of study in grade four can then proceed with it through grades five and six. Before they reach grade seven, the new outlines for grades seven and eight, oriented to this one, will be available for use with them, to make a "whole" from grades one through eight.
3. The charts on pages 139-155 are analysis charts. They are not "teaching" charts and should not be used as such. Geography learnings build up. Natural science learnings build up. Social learnings deepen and broaden. Historical learnings accumulate and grow in values for interpretation of life today. These are all included in the units as herein outlined. Each faculty should devote a period or two to going over these charts together in order to get the plan of their development and growth, and to see how each unit is planned as a part of a total growing pattern.
4. Teachers should also understand the inclusion of certain other aspects of education which have been integrated throughout this bulletin. It is necessary that each level of growth be "nourished" with appropriate food for thought. Teachers can best understand this continuity by using the index and following certain topics throughout the six years. Each teacher can thus see how the references to these topics at her grade level are a part of a total plan to be thought of as the particular links in the chain for which she is responsible. Such topics are Home and Family Living, Conservation, Safety, Nutrition, Mental Health, and the like. An examination of the index will reveal many such topics and many ways for establishing such understandings.
5. There will also be the problem of books, which will require both a long-term purchasing plan and an immediate inventory for replacement and re-allocation of present materials for their most profitable use. The problem of an adequate library or use of library facilities is also involved here. Bibliographies given are far from complete. This search for good books will be one of the major jobs of teachers during the next three or four years. Books should be tried out and a list should be kept of those which the children enjoy and find valuable. Such lists will be requested for Bulletin 233-C, for which this bulletin is the interim report.
6. The successful use of this chapter will require particularly that each teacher know how:
 - To manage a unit of work
 - To plan the use of content by the year, the month, the week
 - To translate data from pupil records into appropriate provisions for individual needs (See page 36.)
 - To use community resources
 - To plan and evaluate outcomes of individual, small group, and class activities
7. The successful use of this chapter will require particularly that each teacher know:
 - Modern air-age geography
 - Elementary science
 - Her community, county, and state
 - Current events

A PHILOSOPHICAL BASIS FOR ALL SOCIAL LEARNING

Every society has a method of regenerating and continuing its beliefs and purposes. In all nations the school has become one of the chief agencies to assist in these functions.

Democratic concepts are the life blood of our society. The whole school program must work to the end of more fully realizing and extending the purposes of democratic ways of living. Democracy is all-inclusive in its scope. It must include economic, political and social aspects of life and must maintain a nice balance among them. Patriotism must be based on knowledge and a high sense of values. For these reasons, this introduction has been written for this section on the subjects that deal particularly with how men solve their problems of living together. It includes a few factors of a fundamental nature upon which we believe any separate or combined efforts at teaching the social sciences and the natural sciences must be based. Materials from the fields of history, civics, geography, and science are included in this chapter on Social Living.

The statements listed below, though stated in rather technical and abstract phraseology, must be recognized as the very substance of the social living

program in the school. In innumerable ways the implications of these statements are constantly being conveyed even to very young children.

All teachers in Pennsylvania's elementary schools should seek constantly to improve their knowledge and understanding of today's basic social problems, that they may sympathetically guide the experiences of our future citizens in this area of learning.

1. *The Necessity for Making Choices*

We recognize that nearly all learning is social. Knowledge has little value unless related to or used in everyday living. When the school undertakes programs to put special emphasis on social knowledge and values, the school is compelled to make choices and many of these choices revolve around content. It is obvious that there is not time to learn all the facts in geography, history, and science. Therefore, these choices must be made carefully. *What is learned and the point of view from which it is seen are important.*

2. *Man Is Specialized to Make Choices*

Man is highly specialized, from a biological point of view, for making choices. He comes into the world with few fixed responses, while other animals have many fixed responses which are not learned. Throughout life man must make choices in responding. *Learning how to make choices and acquiring standards by which to choose are important.*

3. *Adjustment to Change Is a Necessity*

Learning must be undertaken with the understanding that material substances, as well as human relationships and values, are constantly changing and interacting factors. They constantly undergo changes in their relationships. This is the core of meaning of the term "democracy." *Learning to accept, adjust to, or control change is important.*

4. *A Democratic State Provides Avenues for Making Change*

We in a democracy cannot teach to the end of a predetermined economic or social state. In a dynamically free society, human relationships are not fixed, and the distribution of goods is not completely equalized. Our human values are the guides by which we seek to reduce unjust inequalities in social status and material well-being. *Understanding interaction and interdependence is important.*

5. *Spiritual Values and Human Relations are All-Important in a Democracy*

Our judgments in the area of living together must be made with an unqualified understanding

that human relationships and spiritual values are the only bases for estimating the just use of the economic forces of society—labor, management, natural resources, and capital investment. *Understanding human and spiritual values is important.*

6. *Democracy Allows for Individual Differences*

The social goal of democracy is not that of securing unthinking similarity in behavior, sameness in material wealth, or a regimentation of our people. All members of a democratic society are concerned with achieving maximum production and uses of goods and services. They are also concerned with the distribution of the proceeds of this production to insure the ability of their society to continue to reproduce the products which meet their needs. All behaviors should be limited by the larger social implications involved. *Understanding optimum uses of human and non-human resources is important.*

WHAT THE SOCIAL LIVING AREA INVOLVES

The experiences of the school program designed particularly to help the child understand and interpret his world and to live competently in a dynamic, democratic society are outlined in this chapter. Studies of the natural world and the processes by which it became as it is; studies of the various peoples of the world and how and why they live as they do; and studies of the historical events as they deal with the activities of peoples in the past which influence his present and future—all these help the child to understand the world about him, and to deal with it more intelligently.

The fields of the social and the natural sciences—history, civics, geography, and science—assume their true roles, not as separate areas with opposed objectives, but as interacting factors in the solving of any social problem.

We need an understanding of the interrelation of our cumulative heritage and of natural forces for intelligent participation in a democratic society. Scientific invention is rapidly increasing the interdependence of people and all but eradicating the natural barriers which have separated nations. At the same time it is creating problems of world relationship.

Teachers in the elementary grades are quite generally aware of the interrelationship of history and geography, but still largely teach science as a separate and highly specialized subject, or not at all.

A CONTRAST IN APPROACH

The philosophy motivating the program contained in this chapter implies change in practice and procedure from those of straight "subject matter" teaching. To list the differences of emphasis in all respects would be impossible, but a sufficient number are presented to show the change in general trends.

"SUBJECT MATTER" APPROACH

1. The teacher superimposes all standards of conduct.
2. The teacher's main function is to hear recitations, read recalled responses, and test for recall.
3. The textbook is a subject matter course of study in itself to be mastered.
4. The child's greatest responsibility is to the teacher. He does things largely to please the teacher.
5. Marks are a measure of the child's ability to master information.
6. The school day is passive, with children's movements restricted.
7. Both on a time and subject matter basis the work is carefully planned by the teacher alone, and these plans are re-used for several years.
8. Reading about a given topic is considered an adequate presentation for learning to take place.
9. Equipment is fixed, and standards of neatness are on an adult level.
10. Dramatics and related activities are considered extracurricular and are usually superimposed by the teacher and merely memorized by the pupils.
11. The power to recall is the chief reason for learning.
12. Memorization and mastery are goals.
13. The teacher talks *about* democracy.

"PROBLEM SOLVING" APPROACH

The teacher spends much time in building a group sense of morale and standards of behavior suitable to the situation at hand, and guides behavior.

The teacher spends immeasurably greater time in assembling material, and organizing and guiding the learning situation, than in hearing recitations, preparing tests, or marking papers.

Books become one of a variety of sources of information to be used wisely and intelligently.

The child's major responsibility is to the group and to himself. He does things largely because he sees and accepts what is right and why it is right.

Marks are indicative of social and mental growth.

The child is active and free to engage in the movements which are necessary for a program on a level of behavior acceptable for the age group.

The children have an integral part in planning procedures, and new or modified plans are made by the teacher and each group. This results in the consideration of a variety of phases of the subject and in a greater adaptability to the interests and abilities of each child.

Experimentation, manipulation, and observation are used wherever possible in addition to reading.

Equipment is variable and subject to arrangement at the child's level.

Such activities are group-planned and recognized as valuable aids in the learning process itself.

The solving of a problem is the child's motivation.

Reasoning, the collection and organization of data, and the drawing of accurate conclusions are additional goals.

The children and teacher together *live* democracy.

Unit planning has shown that science is really a part of everyday life. It is a necessary and natural factor in the solving of any social problem. Likewise, we have few natural problems unrelated to social and geographic considerations. The use of the scientific method for problem-solving is not confined to science alone. Rather, the scientific

method is the contribution of science for use in every phase of the study of group life.

It is not the purpose of the elementary school to produce historians, geographers, or scientists. The goal is rather to equip well-adjusted children with the techniques for selecting and solving problems and for incorporating their results into constructive,

democratic living. It is our responsibility to provide meaningful background and experiences that will help the child become a successful member in his present social group, thus leading to competent living in a world society. It is to be understood that such a person will need to be highly skilled in the art of personal living as well.

If the principles of democracy are to be understood and to become an integral part of the child's behavior patterns, they must be practiced in his daily school program, as well as in his home and community programs. He must constantly experience interdependent living. This area will, therefore, include experiences which will help boys and girls understand, appreciate, adjust to, and control the elements of their natural, technological, and social environments. A variety of problems in all fields, set up as units, is recommended as the method of presentation. Therefore, some of the units are based on social problems and some are confined more closely to subject fields. All units have, however, been planned to increase understanding of our cumulative heritage and the natural forces affecting our daily living.

Clubs, discussion periods, socialized room organization and projects, continued over an extended period of time, constitute a valuable part of the program. While the basic over-all purposes will be similar, procedures should be flexible, based on the needs and abilities of each child.

When marks, subject mastery alone, and over-emphasized teacher approval become secondary to better adjusted personalities and increased appreciations and understandings, the social living area becomes a major factor in the all-round growth and development of the child. Subject mastery, marks, and teacher approval are *not* discarded. They are, rather, changed as to position of relative importance.

The unit method is recommended. A unit of work constitutes a central theme, problem, or relationship through which the facts, skills, and attitudes of value to the child are given meaning. A unit of study properly derives from teacher-pupil planning. It may vary in length of time and depth of understanding secured. Each unit should provide repeated experience at different levels of difficulty so that the child may socially participate, may engage in many types of activities, may assume individual and group responsibilities, and may evaluate progress and outcomes and organize new knowledges.

The unit method offers the possibility of scaling the levels of difficulty to satisfy the needs of individual ability and it also provides for the necessity

for all children to learn group techniques. Some children will do extensive individual reading and research, others will not. Both individual and group projects will be undertaken. (See pages 52-56 of Bulletin 233-A.)

Teachers frequently feel incompetent about teaching a program of problem-solving units because the content is not always organized in traditional, logical, or sequential order. They are conscious that they often lack a broad general knowledge and are fearful that inability to answer specific questions will mean a loss of prestige with the group. They worry about adequate controls. They feel that their own personalities are not adjusted to such a program. Actually the need for such concern is exaggerated. For many teachers it will be a new experience, but one that carries with it the fun of growth, and many releases from frustrating practices. The teacher is released from the narrow pedestal position she once held. She can learn now with the children. She can try new methods and experiment with a variety of practices, gradually acquiring skills and techniques. She can create an atmosphere free from tension by her own calm, deliberate approach to the problem, and her recognition of the individual potentialities of her group. She can free herself and the children from the tedious and narrowing day-after-day task of just hearing question and answer "recitation," of teaching an array of facts and checking them with questions of recall, and from the necessity of requiring active children to remain always inactive and quiet in their seats. Those practices often dimmed the enjoyment of working with children. Children can learn the true meaning of democracy only when they experience its responsibilities and benefits. A well-adjusted, relaxed teacher who provides children with opportunities for self-disciplined behavior, creative activities, and meaningful learnings, in an atmosphere free from tension and disturbance, is one of democracy's best salesmen.

OVER-ALL OUTCOMES IN THE SOCIAL LIVING AREA

The particular function of the Social Living Area of the curriculum is to develop in the child the knowledges, ideas, understandings, generalizations, and abilities which will help him meet successfully the problems of group living and contribute largely to his competence in living as an individual. The following outcomes, therefore, constitute the inescapable responsibility of the school's program in the Social Living Area.



We Learn Good Citizenship by Working Together

Understandings and Appreciations

1. A realization that living together in groups has been an experience and a problem of all mankind throughout the ages, and that man's efforts to improve his group living have developed the democratic idea by which we live today.
2. An understanding that man's past greatly influences life today. An appreciation of our national heritage, of those who made special contributions to it, and of how it affects our lives.
3. An understanding of the similarities of other peoples to ourselves. An appreciation of the fact that there are greater differences among people of the same race than proved differences between races. Since people are different, yet interdependent, it is important that each person have the freedom and the opportunity to develop his own innate capacities to their highest levels.
4. An appreciation of the beauties of the natural environment and a desire for beauty and order

in one's own life and in group living; a realization that leisure can be used more richly and valuably through the enjoyment of one's natural environment, books, art, music, and other gifts which have been given us; that every individual has creative abilities which can contribute also to the enrichment of his leisure time.

5. An understanding that the elemental needs of food and protection by shelter and clothing are basic to all people no matter where they live or when they lived or what they do for a living.
6. An understanding that man lives in an environment in which the physical and social are inextricably interwoven; and that, though nature influences his ways of living, his environment has been modified and is constantly being modified through new ideas, through scientific thinking, and through inventions and machines.
7. An appreciation of the far-reaching consequences of the use of the scientific method—that man holds in his own hands the evolving power

to construct and to destroy, and that it is his choice to determine how this power shall be used for constructive or destructive purposes.

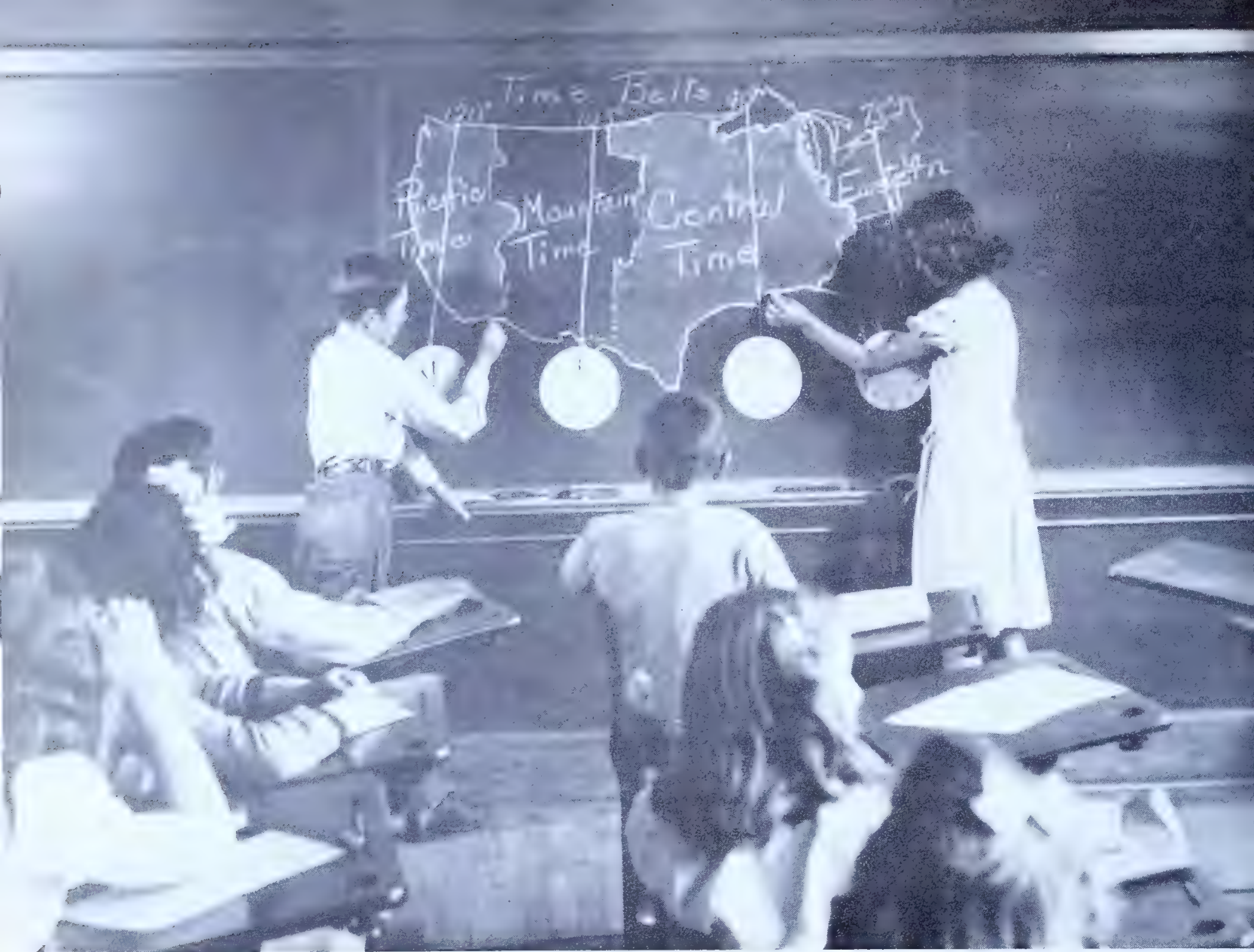
8. An appreciation of man's unique capacity to consume and to destroy resources, to the possible detriment of present and future generations, and that one of man's greatest obligations is to conserve and to use human and natural resources constructively.
9. An appreciation of the dignity of humankind and of the relative well-being which man has developed through the application of his intelligence, effort, and cooperation to the problems of living; respect for and appreciation of workers of every type who contribute to our welfare, comfort, and security.
10. An appreciation of democracy as a way of life, and the understanding that it is a progressively developing function which is not yet fully achieved, neither in our nation nor in our world—that each person in a democracy has a responsibility in furthering and contributing to the progress of democratic living, in his immediate situation, in his community, his nation, and the world; that within a democratic society, initiative, competition, and cooperation have great values, so long as they exist within the rules of the group and of the social order.
11. An understanding and appreciation of our national ideals and institutions and the place of capable leadership; an understanding of the need for active participation in the cooperative solving of problems; a realization that the privilege of citizenship implies an equal responsibility for the improvement of democratic living. These constitute an intelligent patriotism.
12. A conviction that problems can be solved—that the solving thereof constitutes a social contribution; that a store of facts, concepts, and generalizations is essential in the solving of the issues of group and personal living.
13. An understanding and appreciation of the family organization as an important factor in a democratic society; an understanding of the need for active, cooperative participation in carrying out the needs and functions of the family.

Attitudes and Abilities

The over-all responsibility of the whole program is to develop social competence on the part of each individual. The achievement of such competence is

a cumulative process, involving experiences and practice in social living at each level of maturity as the child progresses through school. The school's program should be directed toward developing the following abilities at the successive maturity levels of the child:

1. Development of confidence in himself and a sense of belonging in the group.
2. The development of a set of values, in harmony with the best of our democratic ideals, by which to guide his own behavior.
3. The ability to work independently and cooperatively in group play, work, school and community activities—with growing confidence, responsibility, and effectiveness.
4. The ability to think critically, through practice in discovering problems and solving them by scientific method.
5. Increasing growth in the ability to cope intelligently with the fact of change, adjusting ideas and behavior to developing situations, and participating effectively in bringing about new changes for the improvement of individual and group living.
6. The development of certain skills of gaining information, starting from simple use of them and working toward the more complex aspects.
 - a. Observing for specific purposes.
 - b. Constructing, taking apart, and putting together.
 - c. Gaining and interpreting information from printed materials.
 - d. Gaining information from interviews and field trips.
 - e. Gaining information from charts, graphs, and statistics; from globes, maps, time lines; and from other audio-visual aids.
 - f. Performing controlled experiments.
7. The development of certain skills in sharing information, moving from the simple to the complex.
 - a. Participating effectively in discussions for various purposes: to plan work in general, to select problems for group solving, to exchange ideas pertaining to the solving of a problem, to evaluate information, suggestions, ideas, and products of group or individual work, to arrive at tentative solutions of problems, to re-evaluate and revise solutions.
 - b. Reporting information, gained individually,



Teaching Time Belts

to the group through well-planned oral reports; dramatizations; songs or dances; models; clear illustrations, as maps, graphs, or time lines; and concise, well-worded written reports.

- c. Feeling the satisfaction of creating beautiful, as well as informational, communications through speech, writing, and dramatic and graphic representations.
- d. Achieving an ever-rich and more functional vocabulary.

The units included in the planned program as given in this chapter cut across all subject matter lines, and freely take as much or as little from geography, history, and science as seems to be useful for better understanding the topic or problem to be studied. History and civics, geography and science—all have contributions to make to the overall outcome given above, sometimes together and sometimes separately, with the proportion of each varying widely from unit to unit.

CONTRIBUTIONS AND METHODS OF GEOGRAPHY

General Teaching Guide

1. Geography is organized primarily on the basis of regional and world patterns rather than on the basis of the political state. A geographic *region* is an area in which a few specific human activities are outstanding and are related to specific factors in the natural environment of the area. These of necessity cross political lines because man draws a boundary. An example of such a region would be the spring-wheat section which crosses state lines and the Canadian line. A *world pattern* is built through the study of several regional patterns; for example, having studied the cotton belt of the United States, China, Peru, the Nile, India, and Brazil, the child is ready to understand where the cotton regions of the world are and why. Other world patterns may be built on climatic regions, such as hot, dry lands; work regions—herding re-

gions or manufacturing regions, such as those of the steel industries. These understandings are, of course, not fully developed in the elementary school, but initial understandings can be built.

2. Geography has a relation to time. First, geography helps the learner understand the *present* in terms of the interrelationships between man and the elements of the natural environment within each of these "regions" and in "world patterns." Second, there is a geography setting for each *historical period*. For example, the Pilgrims used the resources of the New England States very differently from the way some of those same resources are used today. The geography of any historical period is not necessarily identical with the present geography of the people or place. Third, there is a *prognostic* contribution of geography which involves the possible or probable interrelations between a people and the elements of the specific natural environment of the region where that people is living today. For example, Japan will probably be unable to support her people with her natural resources alone. The curriculum in geography recognizes these three time categories.
3. The geography of every region includes three related factors: (a) the study of man's present and past ways of living and working, (b) a study of the natural environment (rainfall, soil, surface, growing season, etc.), and (c) an understanding of the interrelationships existing between man and environment. For example, in the study of the cotton belt one will learn that cotton is grown for commercial purposes in the South. This is a concept about man's work or a *cultural* fact. (The Indians, by contrast, did not include the growing of cotton commercially in their culture.) One also learns that there is a long-growing season for cotton, in the South. This is a concept about nature or a *natural* condition. When these two ideas are combined in this manner—the extent of cotton production in the South is influenced in part by the long-growing season and in part by its value commercially—one has expressed a *relationship*. Relationships in geography are not "one-way streets." Man is influenced by his environment and he, in turn, adjusts his ways of living to his environment or changes his environment. For example, man's skill has helped make possible vast irrigation projects; man has changed desert land into fertile oases.

Understandings, Study Skills, Attitudes, and Appreciations to Be Developed

1. An understanding of the natural elements of the environment—the climate; terrain; soil; land and water forms; plant, animal, water, and mineral resources; and location in relation to developed and undeveloped regions.
2. Correct concepts and appreciations of the cultural patterns.
3. An understanding of the interrelationships between man and the natural environment.
4. A knowledge of the location of land and water bodies, cities, and human-use regions which are significant in local or world affairs.
5. Space concepts in terms of distance (the time required to traverse distance).
6. A knowledge of geographic tools, as maps and globes, and other sources of information.
7. Certain study skills including the ability to interpret landscapes, pictures, globes, maps, graphs, charts, descriptions and statistics. Some of these skills are introduced at the primary level in a very simple form and built upon until at the end of the sixth grade a child is fairly proficient in using these skills.
8. Attitudes and appreciations derived from a child's understanding that man lives in an ever-changing environment which causes changes in his way of living. Inversely, appreciation of man's responsibility for conserving and advantageously using his natural environment is an outgrowth of good geography teaching.
9. Human understanding through a knowledge of the peoples of the world and their ways of living, their family patterns and customs.
10. Ability and skill in periodically summarizing and evaluating progress in a unit of study. Such evaluation will help children to understand the next phases of the unit and lead them to make suggestions concerning the next steps.

Specific Guides to Instruction

1. Teach a new map symbol when, and only when, needed.
2. Start with a simple map and globe. A simple map or globe is one which contains only the basic map symbols.
3. Teach the new map signs on the globe as well as on the map.



History Begins at Home

4. Constantly direct the child's attention to a comparison of the natural items in his own environment with those of the region he is studying.
5. Be sure to teach the truth about how the people are using their environment, and do not emphasize the peculiarities of custom which often are the surviving remnants of historical events.
6. Use articles in the daily newspaper and in the magazines which are on the child's level of understanding to motivate units and to check the child's ability to use his geographic background in interpreting such events.

Geography in the Primary Grades

1. Geography, as such, is of course not taught in the primary grades. There are, however, certain concepts basic to geographic understandings which should be developed in the primary grades. They are included in each of the units.
2. Problems for oral discussion and activities in-

cluded in the primary units lead naturally to the development of the basic geography concepts. Each teacher will use much material that is community material, and hence different from what teachers in other localities are using. But all teachers should teach in such a way that the simple geographic principles given in the units are increasingly understood.

CONTRIBUTIONS AND METHODS OF HISTORY AND CIVICS

The special contribution of history and civics is to help the child understand that the past has had a great influence on our present patterns of living and that these patterns are still in the process of development. History in the elementary school is concerned primarily with relations between groups of people and the resultant growth in human institutions. It should always be remembered that the practice of democratic living in the classroom and

school is the best way of teaching democracy. The values of such study are in direct proportion to the extent that it aids the child in solving immediate and future problems in his individual and group living and in understanding the cause-and-effect relations in society. Start in the present with problems familiar to the child, then dip into the past for information needed to understand the present situation—and perhaps foresee certain trends for the future.

General Teaching Guides

1. Chronology in the usual sense should be reserved until the junior high school level. There is evidence to show that at the elementary level the child does not possess the time sense basic to the understanding of the sequential enumeration of past events. Our concern, therefore, is in the broad development of a time concept. For example, we are interested in a realization that the colonists were here over 100 years before the Constitution was written, but not necessarily that Balboa preceded Magellan. The emphasis on individuals and events should be on their contribution to our heritage.
2. In the consideration of a problem the emphasis should be on the social, cultural, or educational factors, with a minimum of political or military aspect. For example, the periods of our Revolutionary and Civil Wars are full of human interest, how people lived, where and why, how they felt, what they were striving for, how they struggled for their living, and how our present-day institutions and customs of home, school, and community were developing. These are much more valuable than a delineation of battles and memorization of laws and political parties which children cannot really understand at this age. The child's interest for details of ways of living should be satisfied through assembling data around a core of meaning (a unit) rather than establishment of an unrelated array of events. We do not minimize the necessity of presenting many facts but it should be understood that their retention is dependent upon associations with the present-day experiences of the child.
3. A slowly developing realization of the great movements of history is desirable but full understanding is not to be expected. The child cannot be fully aware of the economic, social, and political complexities of the present day. He can, therefore, hardly be expected to understand fully similar problems of earlier periods

made even more complex to him by the passing of a long period of time. An application of this principle explains the tying up of most of the history with present-day life of the various sections of the world and the reasons for confining the selection of material primarily to the development of the Americas.

4. The units in this bulletin are not set up in the traditional sequence and development of material. A rich supply of history textbooks, references, and historical literature should be available and used as tools for research reading, as steps in the development of each unit make it desirable. The use of workbooks should be treated with extreme caution. They are of value only as they actually contribute to the solving of the problems. Formal notebooks should be avoided. It is desirable to spend the available budget of money on a rich variety of attractive material appropriate to the unit content rather than restricting it to too many copies of the same book. It is hoped that book budgets in general, will be considerably increased.
5. Observation of particular holidays is assigned to grades where the interest level and general content material are appropriate for their celebration. This should not be construed to mean that the holidays should be ignored in other grades, but rather that reasonable amounts of time and effort be spent on holidays and special weeks. Effective use of time precludes that every one be emphasized every year with every grade. Holidays of minority groups may receive recognition where children of such groups are present in sufficient number and where interest of the community warrants it.

CONTRIBUTIONS AND METHODS OF NATURAL SCIENCE

Science instruction in the elementary school offers one of the most fruitful opportunities in teaching today. Its content is closely related to the exploratory urge of the child, and science instruction can thus satisfy the immediate interests and needs of the child in understanding his environment. Proper classroom situations involve the manipulation, arranging, and operation of materials so that the child moves about in the process of carrying out his purposes. Group experiences which cover diverse areas of life can easily be provided. Necessary things can be taken to the school; or the children can be taken to actual scenes. Science instruction is inti-



The Science Corner is Popular

mately related to group living, which is *social* living. Working with things in the area of science can also be a peculiarly satisfying individual interest.

Teachers raise many questions and face many problems in teaching science. The most crucial of these are treated here by answering five questions and discussing five major problems.

Questions Teachers Raise

1. What Does Science in the Elementary School Include?

Since the science program in the elementary school deals largely with materials in the immediate environment of the child, there can be no limitation of the activities to any of the established fields of science. Therefore, the elementary science program will include simple aspects of studies which, at the secondary and higher education levels, are classified as physics, chemistry, biology, astronomy, geology, and meteorology. This is not to be interpreted to mean that the elementary teacher is to

teach some of each field, but merely that the child will cut across the fields mentioned in his thinking about a problem.

2. What Is the Primary Purpose of Science in the Elementary School?

The primary purpose of science in the elementary school is to cause more children to use the scientific method of thinking in problem-solving. This method consists of:

Recognizing a problem

Assembling factual information related to the problem

Making a tentative conclusion with the information so assembled

Testing the tentative conclusion

As a result of reaching many conclusions, more inclusive truths are reached, known as generalizations. The scientific method is the method upon which man depends for gathering information about the world in which he lives. It is tested thought as opposed to untested thought. It is

clear thinking as opposed to superstition. In short, it is the method by which man has been able to conquer disease, build better homes, develop new industries, improve transportation and standards of living generally.

3. *What Is the Order of Best Practice in Science Instruction?*

The procedures given, in order of preference, in the most fruitful science instruction are:

- Pupil group-doing
- Pupil demonstration
- Pupil telling, a good learning situation
- Enriched knowledge through reading, graphs, pictures, interviews
- Teacher demonstration (Children should assemble materials and demonstrate experiments in so far as it is possible and safe for them to do)

4. *What Materials Does One Use for Elementary Science?*

Elementary science should provide children with the opportunity to take apart, manipulate, investigate, and build materials. Simple inexpensive materials from the child's surroundings are adequate to attain the ends of the science program in the elementary school. Such materials may consist of pieces of wire, batteries, glass jars, magnets, living plants and animals, aquaria, string, blocks of wood, sand, water, toys, rubber bands, and simple balances.

Funds should be provided for a minimum amount of equipment—insulated wire, a few hand tools, dry batteries, tubing, and glass. Most of the best equipment can be secured from school supply houses, from children's collections, and from ordinary household items.¹ The school administrator should provide funds for a few teacher resource books. Most materials needed are, however, free and easily available to the ingenious teacher.

5. *What Is Meant by the Psychological and Logical Approaches?*

There should be, from Kindergarten to Grade 6, a progression from the psychological treatment of subject matter to the logical. In the early grades, the child will proceed from the familiar to the unfamiliar, from the concrete to the abstract, from the whole to its parts, from the obvious to the obscure. This is what is meant by the "psychological" approach.

As the child matures, he becomes increasingly able to learn content and to use content more logically, proceeding from the fundamentals of a field of science and building a more profound knowledge upon this. For example, the biologist begins his course with the cell, proceeds to tissues, then organs, and finally treats the organism. This is known as the "logical" approach. For another example, the more able children of ages 10 to 12 can take the classification of rocks as set up by scientists and collect, study and arrange from such a classification. However, only a slight increase in the ability to proceed logically can be expected in the elementary grades.

Problems Teachers Face

It is recognized that the classroom teacher faces many difficulties in attempting to introduce science in the elementary school program. The feeling is widespread among elementary teachers that science is difficult to teach. In fact, it is the subject teachers fear most to teach. The following reasons for this attitude have been encountered: (1) the problem of finding time for science instruction, (2) the problem of introducing a new subject, (3) the problem of space in overcrowded classrooms, (4) the problem of learning the content, and (5) the problem of suitable textbooks and courses of study.

1. *The Problem of Finding Time for Science Instruction*

This bulletin recommends that science instruction be integrated with Geography and History into a larger area called the Social Living Area. Units at all levels are suggested which have scientific, historical, and geographical aspects. In many teaching situations, it will be impossible to tell whether the class is being taught Science, History, or Geography. Such a procedure will provide many economies in time. At other times, integration may be impracticable and units may be suggested that are definitely unsuitable for integration, or integration may be so far-fetched that it becomes undesirable. Integration is not suggested for such units.

The teacher must guard against the possibility of leaving out science in some units because History and Geography are more standardized and have been taught longer. The scope and sequence chart on pages 140-145 should help the teacher in checking what should be or has been taught. Roughly speaking, science aspects should receive equal time with the historical or geographical aspects of the units.

¹You may wish to investigate the "Science Kit," 204 Dexter St., Tonawanda, N. Y.

In schools where courses are not integrated, time for science instruction must be taken from other subjects. How this is to be done should be worked out by each school to fit its situation, but that science should be a part of the elementary school program in this age of the airplane, radar, guided missiles, atomic energy, and great medical advances, is not debatable.

2. *The Problem of Introducing a New Subject*

While there are many school systems in the State that have had a science program in the elementary school for many years, there are others to which science is entirely new, or a sort of incidental program based upon the chance observations of the children. The science program should be planned and not dependent upon chance observations or interests of the moment.

To introduce anything new is always difficult. The teacher will need to be tactful in approaching the problem. Perhaps school visits should be encouraged; discussions of the problem might take place at parent-teacher groups. Some parents might be asked to make a contribution to the program through some specialty which they have developed.

3. *The Problem of Space in Overcrowded Classrooms*

Since the science aspects of a problem often require equipment for experimentation, places to store the equipment, space to perform the experiment, etc., there is a problem of space. A science table is often the most that can be managed. More desirable situations include the use of workbenches, storage rooms, storage cupboards. Science kits may be purchased which include equipment for doing many experiments. These are stored in a small box which is portable. Such kits may also be assembled by the ingenious teacher and the equipment stored in small boxes and used year after year. Many times the equipment may be brought to school by the children, relieving the storage problems. Teachers should be free to take children outdoors to observe actual situations. Duplicating actual situations that are found close to school may not be desirable in view of the necessity of conserving space. Often the actual situation is a much better learning situation. An example of undesirable duplication is the construction of a device for showing soil erosion when the children can look out the window or go out and see ditches in the school yard formed by running water.

4. *The Problem of Learning the Content*

By content is meant the fund of scientific knowledge which the teacher possesses. It is the information that the teacher tries to pass on to the children. The elementary teacher usually feels so deficient in science content that she feels she is unable to teach it.

Many teachers have had few or no courses in science during their teacher preparation. Since 1939, when four years of college preparation became mandatory for elementary teachers, most teachers have been required to take some work in science. The teachers colleges, for example, require six hours of biological science and six hours of physical science. This is followed by a three-credit course in teaching methods in science. Presumably these recent graduates could be expected to handle science at the elementary level with some degree of success. They should also be able to help other teachers in service to set up science programs. Teachers in service might be interested in taking a course in biological or physical science or in teaching methods in science for the elementary school. Those still working for their degrees might well consider this possibility.

However, a problem of attitude still remains. No amount of science-course work will prepare an elementary teacher to answer all the science questions of the children. No amount of preparation will enable the teacher to exercise an authoritative role in science instruction. Such a procedure violates the very spirit of the science program as outlined in this bulletin. In elementary science children learn by observation and experimentation. The wise teacher will guide them to this type of procedure many times when she knows the answer to a question. Perhaps it would be simpler to tell the children the answer, but the teacher realizes that the method is often as important as, or even more important than, the answer. Many times the teacher can go to these same sources with the children for the answer. Such procedures remove the teacher from the pedestal of authority, which is a difficult position to maintain and educationally unsound. Such a teacher admits not knowing an answer to a question, but not a lack of interest in finding the answer. Such a procedure is perhaps difficult to follow in reading, spelling, or arithmetic, but it is the very stuff of which good science instruction is made. It must be kept in mind that the science content for the elementary school is just what the words "elementary school" imply. It is elementary science. Unfortunately an attitude of mysticism is often present in the minds of elementary teachers in regard to

science. The great accomplishments of science seem like magic, although in truth they are simply the result of careful observation and patient work.

Probably most adults with or without courses in science beyond the high school possess the necessary information to teach science in the elementary school, but they lack skill in imparting this information to children. Certainly a person who has finished high school should have a background of information far beyond what is to be expected of the children in the elementary school. However, only the trained teacher can impart this information adequately. The untrained person often attempts long explanations for a question which the good teacher knows requires but a simple answer which satisfies the child until he can comprehend more. The good teacher knows the child may ask questions that would confound the most learned, but she also realizes that the child does not have the ability to comprehend the adult's explanation, nor does he want such an explanation. For example, a six-year-old child might inquire as to what makes fire burn without being ready for the story of oxygen, energy, kindling temperature, etc. Teachers whose study of science has fitted them to give such adult explanations fear that they are expected to pass on such information to children. Such fears may be reduced somewhat if one remembers that elementary science is indeed elementary.

Nevertheless teachers will want to have good sources of content close at hand. They should probably have a small personal library to which they can refer from time to time. Prominent in this library should be a general science text secured from the local high school or purchased by the school. Such a book will answer many questions. The information will have to be modified for children's use, but it will give a teacher a quick source of information. This is not meant to imply that the elementary program should be based on the general science program of the junior or senior high school. Other sources of information for the teacher and children are indicated in the bibliography.

The teacher should be alert to the vast amount of information appearing in popular magazines, government bulletins, newspapers, and science publications for the layman. The children will often supply popular magazines or bring in pictures from them.

Another aid to the elementary teacher of science is to be found in the exceptional child at the junior-senior high school level. These talented children can often be relied upon to give demonstrations or

set up experiments for the teacher in the elementary grades. This will often provide such children with wholesome experiences and enrich their school life and thus be of mutual benefit.

The high school teacher may also be interested in providing material, time, and information to the elementary teacher to insure the introduction of science in the elementary school. In some school systems high school teachers have been given time to visit with elementary teachers to give such help. However, with the great emphasis on college preparation in our present-day high schools, care must be taken not to introduce methods and material into the elementary school which are unsuitable to the levels of comprehension encountered there.

Other sources of information include garden clubs, county agricultural agents, soil conservation specialists, sportsmen's organizations, hobby clubs, local libraries, radio programs, and scout leaders. Such groups will often provide assistance on those topics close to their special interest. The teacher initiates and organizes their efforts, summarizes their contributions, and learns with the children from these helpers in the local community. (See pages 5 and 6.)

The teacher can also learn science content by taking the children on field trips to local industries, the dairy, pumping station, fruit market, the farm, fish hatchery, printing shop, auto repair shop, newspaper office, and other interesting places. (See pages 47-50.) Science is an integral part of all these. Such a program depends, of course, upon the teacher's being able to develop a cooperative spirit of mutual helpfulness between the lay expert and the school. More and more industries are coming to realize that they, too, have a stake in education.

Such industries often have extensive educational programs. A one-cent postal card will bring a wealth of science materials from some of the nation's greatest industries. The teacher must evaluate such material as to whether it conveys the proper information to the children or whether it represents a form of advertising which is undesirable. The National Science Teachers Association has a committee whose responsibility is to evaluate just such material. By joining the National Science Teachers Association, your library or school will receive packets of educational materials that have been approved and also the journal, *The Science Teacher*.

It is the committee's opinion that if all the opportunities for science instruction are taken into consideration the teacher has in this area one of the most unusual opportunities in education today.

5. *The Problem of Suitable Textbooks and Courses of Study*

Since science is a new subject for many elementary schools, there has been until recently a dearth of good textbooks in the elementary-science field. Now some of the most attractive textbooks in the elementary program are science textbooks. While it is the opinion of the committee that the science program should not be a textbook program, it recognizes that many factors will cause the teacher to rely upon textbooks to a considerable extent. In general, the committee favors making several different textbooks available rather than relying on a single set; and using the textbooks for sources of

information to aid in the solution of a problem rather than for material to read for the sake of reading alone.

Textbooks should be chosen for readability, accuracy, both in word and illustrations, and consistency with the best educational philosophy. Some textbooks emphasize the exotic over the local to such a degree that the child does not know his own environment as well as a far-distant one. There is danger that the textbook may become the final authority in such situations, whereas in these early grades the objects themselves should constitute the final authority. Reliance upon books alone might well be deferred until an ability to evaluate sources of information has been developed.

NOTES FOR BULLETIN 233-C

GENERAL ABILITIES CHART—SOCIAL LIVING PROGRAM

Method and points of view as given in units will contribute to—

PERSONAL AND GROUP
RELATIONSHIPS

- 1-6* Practicing the social amenities
- 1-6 Using courtesy in all daily contacts
- 1-6 Observing safety rules. Using transportation facilities (school buses) safely and courteously
- 1-6 Practicing good housekeeping
- 1-6 Working together in shared activities and on committees
- 1-6 Working with a leader—being a good follower
- 1-6 Learning to be a good leader (at one's maturity level)
- 1-6 Being punctual and orderly in use of time
- 1-6 Taking care of personal and public property
- 1-6 Enjoying creative works of others: art, music, literature
- 1-6 Understanding the basic needs of man: food, shelter, clothing, transportation, communication
- 1-6 Understanding exchange of goods, barter, use of money, and reasons for thrift
- 1-6 Conserving birds, trees, and other natural resources
- 1-6 Understanding effectiveness of both community and individual work and living
- 3-6 Understanding basic economic structure of a simple society and basic needs of all men
- 3-6 Making choices of foods based on knowledge of sources. Knowing the sources of foods as a basis for choice
- 3-6 Making choices of foods based on knowledge of nutritive values. Knowing the nutritive values of foods as a basis for choice
- 5-6 Recognizing the increasing complexity of an industrial society
- 5-6 Recognizing change in society and some of the stabilizing influences in society
- 5-6 Understanding the elements and basic issues of an industrial society
- 5-6 Understanding the relationship between industry, trade, and world civilization

USING BOOKS, MATERIALS, AND
OTHER SOURCES

- 1-6* Collecting and using pictorial materials
- 1-6 Using materials with orderliness, without waste
- 1-6 Gaining information from observation
- 1-6 Using instruments of communication: telephone, radio, motion pictures, film strips, and still pictures
- 1-6 Using phonetic analysis in attacking new words
- 2-6 Finding facts needed in books
- 2-6 Using table of contents
- 3-6 Checking for type of material—fact or fiction, and using both kinds effectively
- 4-6 Gaining information from interviews
- 4-6 Forming conclusions independently from reading
- 4-6 Finding a series of facts to use in reporting
- 4-6 Selecting suitable parts of books for use, pertinent to problem being studied
- 4-6 Using index or finding section in encyclopedia
- 4-6 Checking source materials, one against the other
- 4-6 Using glossary and dictionary
- 4-6 Taking notes from reading
- 5-6 Checking and giving sources for all supplementary material
- 5-6 Giving sources and interpreting current reading materials (See also Analysis Charts, pp. 146-155.)

COMMUNICATION SKILLS

Listening

- 1-6* Listening courteously and attentively
- 1-6 Listening to materials and reports read aloud
- 1-6 Restraining one's comments until discussion time, and taking turns in offering them
- 1-6 Increasing vocabulary by increasing interests and experiences
- 4-6 Listening to oral reports
- 5-6 Securing news broadcast data pertinent to classroom problems outside school hours

Speaking

- 1-2 Creating class stories, to be written by the teacher
- 1-6 Speaking clearly, with good choice of words, in complete sentences, with poise, without mannerisms
- 1-6 Introducing people
- 1-6 Telling a story or reciting a poem to a group
- 1-6 Striving for more accurate use of terms
- 1-6 Setting up standards of oral communication and applying them to one's own speech
- 1-6 Contributing to group discussion and planning
- 1-6 Communicating ideas to others by conversation
- 2-6 Reading a selection aloud so as to hold the group's interest
- 2-6 Formulating appropriate questions to ask workers when on excursions
- 3-6 Using the telephone effectively and courteously
- 4-6 Interviewing
- 4-6 Disagreeing with others in a courteous manner
- 4-6 Conducting a group discussion
- 4-6 Gathering and preparing materials for dramatization
- 4-6 Giving a report from a topical outline
- 4-6 Presenting conclusions or data from several sources

Writing

- 1-2 Writing labels or single sentences
- 1-3 Writing simple news items
- 2-6 Writing descriptive captions for pictures
- 2-6 Listing new words for study and future use
- 3-6 Proofreading all written work
- 3-6 Writing a paragraph
- 3-6 Writing a letter of invitation or a request for information or material
- 4-6 Writing a report on a trip or interview (without assistance)
- 5-6 Writing several related paragraphs
- 5-6 Writing a report on materials secured from several sources

* Numbers refer to grade levels.

ANALYSIS CHART

I. *Plants: Needs, Structure, Uses*

INTERMEDIATE

1. What are some kinds of common plants?¹
The common plants in the vicinity should be classified and identified as follows:
Plants that produce flowers
Non-flowering plants (ferns, mosses, algae, lichens, molds, bacteria)
Plants that are troublesome to man (poisonous plants, weeds)
Plants that we eat (wheat, corn, tomatoes, potatoes, cabbage, etc.)
The difference between grains, fruits, vegetables
The common wild flowers; those that need protection
Some cultivated plants that we grow in our homes and in our gardens
Plants that do not make food
2. What are the needs of plants? (Plant needs should be clarified by experimentation where possible)
Plants need oxygen from the air to stay alive
Plants need carbon dioxide and water as raw materials for food-making
Plants need sun energy in the form of light to make food
Plants need warmth
Non-green plants must get their food from other plants or animals
Plants must reproduce themselves if they are to continue to exist
3. How do plants meet their needs?
Plants have tiny openings in their leaves that take in carbon dioxide and oxygen from the air
Roots take in water
Leaves are held up in the sunlight by stems
Many plants produce seeds in flowers to reproduce themselves
Non-flowering plants produce spores to reproduce themselves
Many plants can reproduce themselves by cuttings
Some plants die each year when cold weather comes after first producing seeds to grow the following spring
Some plants die down to the ground but keep alive under the ground
Some plants become hardy and weedy and grow year after year
Plants depend upon animals to meet some of their needs. (Animals depend upon plants for many of their needs)
4. How are plants made?
Flowering plants are made up of three parts: root, stem, and leaf
Non-flowering plants may not have these parts
All plants are made up of small "building-blocks" called cells
Plants have tiny tubes through which water, food material and other dissolved substances flow up and down the plant
Flowers are special structures for producing seeds
Flowers are made up of sepals, petals, stamens, and pistils
Stamens bear the pollen, and the pistil develops the seeds
Seeds contain young plants and food material
The food material in the seed enables the young plant to grow until it can make its own food
5. How does man use plants?
Man uses many different plants as a source of food, clothing, and building material
Man uses many plants for beautifying his home
Man enjoys large aggregations of plants, which we call forests, as a place for recreation and relaxation

PRIMARY

1. How can we help to keep our school beautiful?
2. How is food preserved until man uses it?
3. How does the farmer take care of the soil?
4. What plants that we use for food grow on the farms we pass?
5. How do farm plants help us? (Common plants have roots, stems, leaves, and flowers.)
6. Where are the seeds made?
7. What does the seed contain?
8. How are seeds carried from place to place?
9. How do plants live through the winter?
10. What plants drop their leaves when winter comes?
11. Why do plants need water, light, air, and heat?
12. How do plants change with the seasons?
13. Why do vegetables keep fresh longer when sprayed with water?
14. How do evergreen trees differ from other trees?
15. What plants grow along the roadside? (Typical to location.)
16. What farm plants should we know?
17. Molds, bacteria, moss, and green pond scum are plants, although quite different from ordinary plants. In what ways are they different?

¹ The teacher should make an effort to have the children learn the common names of some of the common plants as outlined above (Intermediate). Undue emphasis, such as the memorization of long lists of names, should be avoided; but there is a value in knowing the names of some of the common plants in one's environment. The scientific names of the divisions of the plant kingdom

I. *Plants: Needs, Structure, Uses (Continued)*

PRIMARY

INTERMEDIATE

Man enjoys the beauty of many plants, both wild and cultivated
Man uses plants to rebuild the soil

6. How can man use plants wisely?

Plants are a renewable resource and new plants should be planted where they have been used or destroyed
Plants prevent soil-washing and can be used to save the soil
Soil suitable for growing plants contains humus (dead organic material, principally dead plants)
Building good soil therefore requires that we provide the soil with many dead plants
Some plants useful to man have been destroyed
Streams must contain water plants if they are to contain animals (fish)
Man desires beautiful things; hence forests, cultivated flowers, and wild flowers should be preserved

II. *Animals: Needs, Structure, Uses*

1. What animals make good pets?
2. Why must we be kind to pets?
3. How do farm animals help us?
4. How do homes of animals differ?
5. Why do animals eat plants for food?
6. What animals store food for winter?
7. How do animals travel?
8. What are the needs of animals?
9. What are the needs of very young animals?
10. How do farm animals' needs differ?
11. What are the different names of young animals?
12. What are some of the common animals found in our locality? (Insects, Fishes, Frogs, Salamanders, Snakes, Turtles, Lizards, Birds, Mammals)

¹ The teacher should have the children learn the common names of some of the common animals in the surroundings of the child. Undue emphasis, such as the memorization of long lists of the names of animals, should be avoided, but there is a value in knowing the names of the common animals in one's environment. The scientific names of the divisions of the animal kingdom should be avoided. Rudimentary classification may begin in the elementary school, however.

The names of some of these might well be learned, such as robin, bluebird, swallowtail butterfly, meadow mouse, sunfish, earthworm, garter snake, and bullfrog. See suggestions on aids to instruction for the science teacher, pages 134-138.

1. What are some of the kinds of common animals?¹
The common animals in the vicinity should be observed and may be classified as follows:
Animals with backbones—Animals without backbones
Backboned animals that have gills—Back-boned animals that are true air-breathers
Backboned animals that start life in the water and become air-breathers when they are older
Animals with feathers—Animals with hair
Worm-like animals
Insects and their allies
Shelled animals
2. What are the needs of animals?
Animals take in oxygen from the air in order to live
Animals need food for energy and building their bodies
Animals must be protected from extremes of weather (hot and cold; wet and dry)
Animals must secure their food from plants or from other animals that depend upon plants
Animals must reproduce themselves, or their kind will disappear
3. How do animals meet their needs?
Many animals have lungs to get oxygen from air or gills to get oxygen from water
Many animals can move about to get food in the form of plants or other animals
Animals have a variety of mouth structures for securing food; some suck or lap up food; some bite and tear food; some gnaw; some absorb it directly from water, etc.
Animals are protected in various ways from extremes of weather; coats of hair, feathers, etc.
Many animals build homes to protect themselves
Some animals migrate to places where weather is more favorable
Some animals die after first laying eggs that will live through an unfavorable period and then hatch
Animals reproduce themselves in various ways
Some lay eggs which hatch when conditions are suitable
Some produce living young that are born
Some young animals require much care; some scarcely any
Some young are quite different from the parents; others resemble their parents from the beginning
Young animals grow up to look like their parents
Animals depend upon plants in many ways

ANALYSIS CHART (Continued)

II. *Animals: Needs, Structure, Uses (Continued)*

PRIMARY

INTERMEDIATE

4. What is the structure of different animals?¹
 - Many animals have a special outer coat for protection
 - Some animals have an inside skeleton (backboned animals)
 - Some have an outside skeleton (insects)
 - Many animals have sensory organs for hearing, seeing, and smelling
 - Many animals have blood; some animals do not
 - Some animals have many organs; some have few
 - Many animals are built on similar plans. Backbone plan, insect plan, worm plan, etc.
5. How does man make use of animals?
 - Man uses animals to help him carry heavy loads
 - Man uses many animals or their products for food
 - Man uses many animals for articles of clothing
 - Man uses many animals as companions (pets)
 - Man is annoyed by animal pests
 - Man uses animals for recreation (hunting and fishing)
6. How can man use animals wisely?
 - Man is able to destroy animals so that future generations are denied their products or benefits
 - Man must control harmful animals and use helpful animals sparingly in order that they can reproduce more of their kind
 - Many useful animals have already been destroyed
 - Animals that feed on other animals may be beneficial
 - Living wild animals are an important natural resource

¹It would be easy to overemphasize anatomy of animals. A good rule to follow is to observe that structure which can be seen without dissection or which is observable in the ordinary course of events. (Heart in butcher shop, chicken cleaning, bones, etc.)

III. *Substances*

- A. *Air*—what it is—composition—movement—temperature—uses
 1. What is wind? How does wind affect man?
 2. Fire needs air to burn
 3. How can air be taken away from a fire to put it out?
 4. Why do fires need air?
 5. From what directions do the winds blow in your locality?
 6. How does moisture get into the air?
 7. How does moisture get out of the air?
 8. How do people dress for different weather?

- A. *Air*—what it is—composition—movement—temperature—uses

1. What makes air move?

Air has weight and pushes down on the earth, producing what we call pressure

Wind is air in motion

Air moves when there is greater pressure at one place than at another

2. How do heat and cold affect air?

Heat expands air, and causes it to become lighter

Cold contracts air, and causes it to become heavier

Heavier air exerts greater pressure and pushes light air, causing winds

Air currents can move up and down or in horizontal directions. (Rising columns carry moisture upwards, support clouds, the flight of gliders and soaring birds)

3. How does man use air?

Man uses air to breathe just as other animals

Man uses the air for a highway for airplanes

Man sometimes pollutes the air until it is unsuitable for human use

III. Substances (Continued)

PRIMARY

4. Where is air found?

Air spreads in all directions to fill space not filled with other things. Man lives at the bottom of a sea of air many miles deep

5. Of what is air composed?

Air is made up of the gases, oxygen (about 20%) and nitrogen (about 80%). Very small quantities of other gases are in the air, such as carbon dioxide, water vapor, helium, neon, krypton
The carbon dioxide in the air is important to living things, although present in the air in very small quantities

6. Why do living things need air?

Living things need air for the oxygen in it

Oxygen combines with food materials in living things and releases energy in the form of heat energy and motion

Plants need the carbon dioxide in the air to combine it with water to make food

Carbon dioxide and water combine to form foods in a green plant in sunlight

Different living things get the oxygen from the air in a variety of ways: gills, lungs, etc.

Water contains air from which water plants and animals get oxygen

B. *Water*—effect on climate—uses—effect on man

1. How does water help us in our homes?

2. How are rain, sleet, snow, frost, dew, and fog formed?

3. How does running water affect soil?

4. Where do we find water?

5. How does water go into the air?

6. Why do plants and animals need water?

7. Why must we keep water pure and clean?

8. How can water be our enemy?

B. *Water*—effect on climate—uses—effect on man

1. Where is water found?

Water is found almost anywhere on the earth's surface. (In the air, in the soil, in seemingly solid objects, etc.)

Water goes into the air as a gas by evaporation

2. How does water change with heat and cold?

Heat changes water from a solid (ice) to a liquid (water) to a gas (water vapor)

Cold changes water vapor (gas) back to a liquid (water), back to a solid (ice)

3. How do living things use water?

The bodies of living things are largely water

Living things dissolve their foods with water

Human beings regulate their temperature with water (perspiration)

Plants make foods with water and carbon dioxide

4. How does running water affect man?

Man uses running water to do work for him

Running water carries away the soil which man needs to grow plants

Man has allowed much soil to be washed away

Man has polluted water until much of it is unfit for human use

Many of man's pleasures depend upon clean streams and lakes (fishing, swimming, boating)

C. *Forms and composition*

1. Of what are substances composed?

2. What are some substances that are made of two or more substances?

3. What are some substances that are not made of different substances? Use common materials—carbon, lead, copper, iron, zinc, silver

4. How do the same amounts of different substances differ in weight? Water, wood, lead, etc.

5. How does the form of substances vary? Solids, liquids, gases

6. What is an acid substance, base, and salt?

ANALYSIS CHART (Continued)

IV. *The Earth's Surface: Composition, Changes, Effect Upon Man, Soil Formation, Uses*

INTERMEDIATE

1. What are the forms that the earth's surface takes?
The earth's surface consists of level land, hills, valleys, mountains, brooks, ponds, swamps, rivers, and lakes
2. What are some common kinds of rock?
Quartz, flint, slate, shale, granite, marble, limestone, and sandstone are kinds of rock
3. How was the earth's surface different many years ago?

1. Of what is the earth's surface composed?
The earth's surface is composed of land and water
Water covers three-fourths of the earth's surface
The water on the earth's surface forms oceans, lakes, rivers, creeks, ponds, brooks, etc.
The ocean and a few other bodies of water are salty; most other bodies of water are not salty
The land surface of the earth is irregular, being composed of mountains, hills, valleys, deserts, etc.
The surface of the earth is composed of different kinds of rock
2. How does the earth's surface change?
Running water, winds, heat, and cold wear away the earth's surface and produce slow changes in its appearance
Man can change the appearance of the surface of the earth quickly
Forests and other plant life prevent water from washing away the soil on the surface of the earth
Whole continents rise and sink over long periods of time because of forces about which we know little
Mountains have been pushed up from the earth's surface
Rivers cut out valleys
3. How is man affected by the form of the earth's surface?
Man lives in places where the surface of earth makes work easier. Man uses the oceans and rivers for highways for boats
Man has become increasingly able to live where he wants, despite the nature of the earth's surface
Many of man's activities are concerned with securing useful things from the earth (oil, coal, iron ore, slate, marble, etc.)

V. *The Earth and Its Neighbors in Space: Where they are, Who they are, Earth's motions, Effects*

1. What does the sun give us?
2. Where does the sun rise and set?
3. How do animals prepare for winter?
4. How do animals prepare for summer?
5. When are many animals born?
6. How do plants prepare for winter?
7. How do people dress differently in the different seasons?
8. How do people play and relax in different ways in different seasons?
9. How does the sun seem to move across the sky during the day?
10. How does the length of day change in the different seasons?
11. How does weather change with the seasons?
12. How do animals change with the seasons?
13. When does the sun reach its highest point?
14. How does the moon change shape during each month?
15. How does the Big Dipper help us to locate the North Star?
16. How does the Big Dipper seem to move around the North Star?
17. Why do the stars seem to move across the sky like the sun?

1. Where are our neighbors in space?
The earth is one of nine planets traveling around the sun
The stars are sunlike bodies which appear small because of their great distance
Our sun's family (the planets) are immensely distant from even the nearest star
2. Who are our neighbors in space?
Planets, the moon, the sun, stars, comets, meteors, constellations (groups of stars), and nebulae are our neighbors in space
3. How do the earth's neighbors in space affect the earth?
The sun provides the earth with energy necessary to life
The motion of the earth around the sun, combined with the tilt of the earth on its axis, causes the seasons
The turning of the earth (rotation) causes day and night
The turning of the earth causes the sun to seem to move across the sky during the day, and the moon and the stars to move across the sky at night
The phases of the moon are caused by the position of the earth, sun, and moon
The planets and moon shine by reflected light; the stars generate their own light
4. How do the earth's neighbors in space affect living things?
Man tells direction by the sun and stars
Man tells time by the position of the earth and stars
Man enjoys the beauty of the stars
The seasons affect all living things
People live on those parts of the earth where the climate is suitable

ANALYSIS CHART (Continued)

VI. *Energy, Electricity, Sound, Light, Heat: What They Are, Uses*

PRIMARY

1. What machines are used in building homes?
2. How do heat, light, and clean air make our homes comfortable?
3. How do machines make work easier?
4. How are magnets used by man to make work easier?
5. What substances are attracted by magnets?
6. For what is electricity used?
7. For what are wheels used?
8. What makes engines go?
9. Why must we oil machines?
10. How can we take care of our toys so they will last longer?
11. How do we hear?
12. How is sound carried?
13. What makes our toys move?

INTERMEDIATE

1. What is energy?
Energy is the ability to do work
Energy exists in the form of motion, heat, light, sound, electricity
Energy may be stored in foods, chemicals, coal, etc.
2. How does man use energy?
Man uses energy to do his work
Man needs energy to live
Man uses energy to keep comfortable, to go from place to place, to communicate with others
3. How do machines help man to use energy?
Machines help man to use energy to do work
Machines can use energy to do tasks that man cannot do without machines
Simple machines can often be combined to form complex machines
Machines have made man's life easier and caused him to live much differently than he would without them
4. Why must machines be used wisely?
Some machines are dangerous
Machines last longer if cared for properly
5. What is electricity?
Electricity is a flow of electrons
Electricity does not travel through all materials (non-conductors)
Heat energy, motion energy, and chemical energy may be converted into electrical energy
Electricity can be converted into motion energy, chemical energy, and heat energy
Electricity may be made by rubbing objects together. This is called static energy
Man uses electricity to turn motors, for heat, for television and radio, telephones, to make magnets, etc.
An electric current produces a magnetic field
Magnets are used to determine direction (compass)
The earth acts like a huge magnet
6. What is sound and how does man use sound?
Sound is produced by vibrating objects
Sound waves of air cause our ear drums to vibrate, causing us to hear
Sounds may be high or low in pitch, according to the number of sound waves that reach our ear per second
Sound travels about 1100 feet per second
7. What is light and how does man use light?
Light is a form of energy, but nobody knows exactly what it is
Man uses light to learn about his surroundings (sees)
We see objects because of the light that reflects from them or by the light they produce themselves
Our eyes are not sensitive to all kinds of light; we cannot see X-rays or infrared light, yet it is a form of light
Our eye is a delicate structure and must be safeguarded in order to continue to work
Man uses light to take pictures, to open doors, to measure distances to the stars
White light is composed of many different colors of light and can be broken up into different colors
Objects give off light when they are heated

ANALYSIS CHART¹

GRADE I

SOCIAL LEARNINGS

All living things need shelter and make homes for themselves.

People keep improving their homes for more comfort and pleasure.

Our homes are built largely of materials most easily available.

Orderliness makes a home more safe and attractive.

Members of a family depend upon each other. Every member can contribute to the happiness and welfare of the others.

Homes depend upon many outside sources for necessities and services.

We depend upon each other for many things in school.

Each person can do something to help make our school life pleasant and safe.

We try to make our surroundings more beautiful.

We talk over problems which we meet and try to work out ways of solving them together.

We plan our time so that we may use it wisely for our work and play.

We try to keep our school clean, warm, and well ventilated so that we shall be healthy.

Communities build schools so that their young people can learn to live happily and helpfully with other people, and learn how to govern themselves.

We depend upon many people to help us get to school—the bus driver, the garage man, the gas station man, the makers of buses, or perhaps the trolley conductor, or a train crew.

We need to be careful of our safety in walking or riding to school.

The policeman, the bus driver, and the school patrol help us keep safe.

We must respect the rights and property of others as we go to school.

There are some buildings which are owned by private people and others which are public institutions.

People do many different kinds of work in our community.

People can make the community more beautiful by planting trees.

People travel in many different ways in our community.

We depend upon many kinds of animals for food, for work, and for enjoyment.

We have responsibility for the care of our pets.

We must be careful of our own safety when around animals.

CONTRIBUTIONS OF HISTORY

Our homes are different from those our parents lived in as children.

Different building materials are often used nowadays.

We use many more machines in our homes than people did in the past.

Our school is different from those to which our parents went.

We often go to school in buses nowadays, while our parents usually walked or used horses.

Many things along the way to school are different now from what they used to be.

Some interesting things happened in our community long ago, and historical markers show where these events occurred.

The present is linked to the past and to the future, through our holidays.

Christmas is one of the oldest holidays.

We number our years from the date of Jesus' birth.

CONTRIBUTIONS OF GEOGRAPHY

Maps and Globe

We can make a simple frieze or floor map of the school and its immediate environment.

Interpretation of Distance

We express distances in terms of near, far, near enough to walk, and too far to walk.

We realize that it takes more time to cover the distance between home and school when we walk than when we ride in an automobile.

Time and Dates

We understand long ago, now, morning, noon, night, spring, summer, fall, winter.

Location

We express location of houses thus: on the hill, beside the river, etc.

Charts, Graphs, and Statistics

We can make a simple daily weather chart indicating each day as sunny, rainy, or snowy.

We can make a simple chart showing the length of a shadow in early morning, at noon, and in the evening.

We can make a simple chart showing the length of a shadow, from the same location, in fall, in mid-winter, in early spring, and in early summer.

Pictures and Landscapes

We observe, with some degree of accuracy, the various elements of which the environment is made.

We observe weather in different seasons.

We observe daily and seasonal changes in the landscape.

We observe growing things in different seasons.

We draw conclusions from observations.

We recognize a city, town, village, and farm.

Understandings

We live in groups.

We need shelter to protect us from the weather.

Many people do special kinds of work.

We use tools and machines to carry on our work. We fit our work and play to daily weather conditions and to the seasons.

The weather changes almost daily.

All the land is not the same; some is hilly; some is level.

Man uses many different kinds of transportation.

¹ There is, of course, much overlapping between these three columns and the analysis charts on preceding pages at all grade levels.

ANALYSIS CHART (Continued)

GRADE I (Continued)

SOCIAL LEARNINGS

Everyone needs to spend part of his time "having fun." Part of having fun is to make others happy, also.

Christmas is celebrated by people all over the world.

The teachings of Jesus have helped people to live together more peacefully upon the earth.

We like to share in the government of our classroom so that we may learn to form opinions of our leaders, and learn to yield to the majority.

We like people who speak courteously.

We find pleasure in working with others.

Everyone should conduct himself properly at parties.

We try to grow in honesty, truthfulness, consideration of others, initiative, and poise.

We begin to realize the interdependence of people and communities.

CONTRIBUTIONS OF HISTORY

CONTRIBUTIONS OF GEOGRAPHY

Some methods of traveling are faster than others.

Less time is required if fast transportation is used.

There is a variety of scenery.

The sun each morning rises in the same part of the sky but not in the same spot. This is true of the noon sun and the setting sun, too.

The length of a shadow changes with the time of day and with the seasons.

People need to know about directions in order to travel.

GRADE II

SOCIAL LEARNINGS

There are many places of interest in our community—some because they are old, some because we enjoy them, some because they help us govern ourselves.

There are many interesting people in our community—travelers, artists, writers, those who have lived here many years, those who are "leaders" in our community.

Some things in our community need to be improved; we can help with some of them.

All the people in our community depend upon each other in many ways.

People in our community help us get food, clothing, letters, news, and many other things.

Many different kinds of workers in our community help us get these things

1. Those who supply us with food directly—storekeepers, truck gardeners, farmers.
2. Those who bring us messages—the rural or city mailman, the post office, the telegraph company, the telephone company, the local newspaper.
3. Those who process food for us—the bakery, the creamery, the butcher shop, the cold storage plant.
4. Those who help to protect us—the police, the firemen, the doctor.
5. Those who help us travel and carry goods—trucks, railroads, airplanes, boat companies, buses.
6. Those who make and sell clothing—local factories, garment stores.

CONTRIBUTIONS OF HISTORY

Our community has changed since earlier times; it is still changing.

Some people have lived here longer than others.

Some have made special contributions to our community's growth and welfare.

In earlier times homes depended more upon themselves for many things—milk, bread, clothing, preparing food for winter, and so on.

More work is done by machines nowadays but workers are needed to run the machines.

People have changed the natural environment (by cuts, fills, bridges) in order to make roads.

Roads are much better than they used to be before automobiles were used.

More machines are used nowadays in building roads.

Farming is done differently now from the way it was done when grandfather was a boy.

Modern machines and good roads have made farm living and work easier and more pleasant than formerly.

CONTRIBUTIONS OF GEOGRAPHY

Maps and Globe

We can trace our travel routes on a rough map of the community.

We can make a simple map showing the route of a class excursion.

We can show on a sand table the roads out of town and orient the roads to where the sun rises, where the noon sun is in the sky, and where the sun sets.

We can make a simple map of a farm and orient the map to the position of the sun in the morning, at noon, and in the late afternoon.

We realize that the map is a helpful tool for a traveler to use.

We can trace, with the help of the teacher, familiar roads on an automobile road map.

Interpretation of Distance

We realize that fast transportation and good roads help people cover great distances quickly.

We realize that farm communities cover more space than city communities.

We realize that modern communication makes the distance between people seem smaller.

Time and Dates

We understand long, long ago, now; know the days of the week, the seasons.

ANALYSIS CHART (Continued)

GRADE II (Continued)

SOCIAL LEARNINGS

Some of these people own their own business, many of them work for companies.

Each kind of work has some hardships and each has some advantages.

Our community is connected with other communities by roads—we get things from other communities and send things to them.

Good roads help to make travel, communication, and transportation of goods easier and quicker.

We depend upon many people to make roads and to keep them safe and easily traveled.

Roads must be specially cared for in storms and in winter weather.

When a new road is laid out it is very carefully planned, so that it will help the people from one community to travel safely and easily to other communities.

People must obey signs and laws in order to drive safely on the roads.

Sometimes roads spoil the natural beauty of the countryside, and people are learning how to protect themselves against this through laws and through organizations. People enjoy scenery and like to keep it beautiful.

People depend upon farmers to raise most of their food.

Farmers earn their living by raising food and selling that which they do not use themselves.

Farmers raise many animals for work and for meat and milk.

Farmers depend upon machines for some of their work.

The weather is very important to farmers' crops.

Farmers fertilize their soil, and keep it from washing away, so that they will have better crops.

The farmers have to protect their crops against insects, diseases, and other hazards.

Farming is hard work, but it has many advantages also.

In warm seasons the farmers' work is much heavier than in winter.

Farmers depend upon many other workers for their clothing, their machines, and for many conveniences and services.

Many people handle a letter as it goes from one person to another.

Postal workers have to be careful and accurate in their work. They are trained and paid for their work by the United States Government.

Mail travels in many ways; some ways are quicker than others.

We pay extra to have a letter go the quickest way—by air mail and special delivery.

CONTRIBUTIONS OF HISTORY

Our holidays have come down to us from past people and events.

Letters travel much faster and more safely than they did in earlier times.

CONTRIBUTIONS OF GEOGRAPHY

We observe the position of the sun at different times of the day.

Location

We express location of crops on a farm thus: on level land; on a hillside; near the creek, etc.

Charts, Graphs, and Statistics

We make a simple daily weather chart indicating each day as sunny, rainy, or snowy, and record the outdoor temperature at one particular hour.

Pictures and Landscapes

We observe how animals and people adjust to the climate; how they provide food and shelter.

We observe changes which take place in the landscape.

We note whether the changes are a result of man's work or of nature.

Understandings

People live in communities.

Some people live in country communities; some in city communities.

People live nearer one another in city communities than in country communities.

Workers use machines and tools.

They use different forms of transportation to carry their goods from place to place.

A map is a tool which travelers use.

The sun helps us with directions.

There are different kinds of land.

People think about weather when they build a road.

The scenery changes along the road. It looks different at different seasons.

There are different kinds of soil and different kinds of rock.

Farmers do not live close to one another because they need a great amount of space for their crops and animals.

The farmer fits his work to the weather and to the seasons.

The farmer thinks about the kind of land and soil when he plants his fields.

People fit their play to weather and the seasons.

People protect the natural surroundings.

There are various means of communication.

ANALYSIS CHART (Continued)

GRADE III

SOCIAL LEARNINGS

We take responsibility and carry out a project to its conclusion.

We can make introductions properly.

We have developed acceptable table manners.

We can use the telephone courteously.

We can write simple letters.

We can use simple parliamentary procedure.

We have developed some interest in hobbies.

Peoples' activities, work, and ways of living are influenced by the seasons.

People are constantly working out new ways of protecting themselves against seasonal changes, but it is still necessary to make many adjustments to temperature, weather, length of daylight, and the changes which take place in plants and animals from season to season.

The changes of the seasons make many kinds of beauty for people to enjoy.

Our community cannot supply all the necessities and services which its people need and want—it must depend upon many other communities for them.

Each community needs many different kinds of workers and often these live in other communities.

Workers who produce goods often depend upon other workers to transport the goods to market.

All these workers are important to us because we need what they produce or transport. We are also important to them.

We need to know what other people are thinking and doing because we depend upon many different people for necessities and services.

Many kinds of workers, inventions, and machines are used to make communication quicker and easier over great distances.

Modern means of communication are bringing all the nations of the world closer together than they have ever been.

Man must depend upon his natural resources for some necessities, such as water, but he has devised many ways of using and controlling these resources.

Man has often wasted his natural resources, and has met with hardships later because of lack of them.

CONTRIBUTIONS OF HISTORY

People are less hampered by the changing seasons in their work and other activities than they were in earlier times.

Machines and inventions have helped men to adjust to changing seasons.

The kinds of work done in our community are different now than in earlier times.

In most communities there are more kinds of workers than formerly.

Machines have made a difference in the kinds of workers needed.

New kinds of work are constantly being developed and some kinds are disappearing.

People can communicate with others at a distance much more quickly and easily than in earlier times.

As more people worked in other communities than in their own, more communication was needed.

As communities came to depend more and more upon each other, more communication was needed.

New inventions and machines for communication are constantly being developed.

Though they lived in the same natural environment as ours, the Indians lived very differently than we do.

The Indians used the natural resources as they found them and did little to change them.

They had only the simplest kinds of tools and machines.

Indians had no churches or schools. Their religion was a kind of nature-worship, observed with chants, rituals, and ceremonies; their children learned by helping their parents with their work, and by hearing stories told around the campfires.

Indians enjoyed themselves by having feasts and religious ceremonies, and by playing games.

Our ways of living are different because our ancestors came here from countries which had already learned how to use natural resources better, how to make machines, and how to govern themselves better.

Most of the food, clothing, and shelter of older generations was not "processed" as ours is.

Each family was largely self-sufficient, and cooperated with other families only in war and religious observances.

"Communities" did not exchange goods and services as we do.

We have been improving our ways of living for 300 years in this country.

CONTRIBUTIONS OF GEOGRAPHY

Maps and Globe

We can make rough sketches of the land and water bodies seen in our community.

We can show on the sand table the land and the water bodies of the community.

Interpretation of Distance

We understand a few miles, many miles.

Time and Dates

We can read and write the days of the week, the months of the year, use the calendar; tell time by the clock.

We connect events with dates.

We realize that the hours of daylight are longer in summer than in winter.

Location

We note where business establishments are located, near the railroad, in the business district, etc.

We have learned directions north, east, south, and west in the community.

Charts, Graphs, and Statistics

We continue to record daily weather conditions as recorded in grades one and two and now indicate wind direction on the chart.

Pictures and Landscapes

We observe the landscape, to discover how the work certain people do changes with the seasons; that buildings where work is carried on differ in appearance.

We observe the evidences of the four seasons of the year; people do special kinds of work in each season.

We see how the natural landscape changes with the seasons. Certain types of weather are associated with each season.

The landscape changes in appearance over a long period of time.

Man makes changes in the landscape.

Nature makes changes in the landscape, too.

The changes man makes in the landscape are usually more noticeable than the changes nature makes.

As summer approaches, we see the noon sun higher and higher in the southern sky.

As winter approaches, we see the noon sun each day lower and lower in the southern sky.

We know that the sun rises in the east and sets in the west, that summer days are longer than winter days.

ANALYSIS CHART (Continued)

GRADE III (Continued)

SOCIAL LEARNINGS

Today we must be constantly on the alert to use our water resources wisely or our country will suffer in the future. Water must be kept clean and pure to safeguard our health.

Easter represents, in the Christian world, the resurrection of life which occurs with the coming of spring.

Springtime gives rise to many kinds of work which contribute to our welfare, and to pleasures which help us keep well and happy.

Much of our comfort, health and welfare depends upon our forests, upon the services of birds to our crops and gardens, and upon the recreation and pleasure provided by natural beauty spots.

CONTRIBUTIONS OF HISTORY

We are still trying to find better ways of living through inventions, machines, conservation of resources, and better government.

Men have learned from earliest times more and more ways of using water and of controlling it.

Today we get water for our homes and for our work more easily than people did in early times.

Machines and inventions help us to get our water supply, and to keep it pure.

Easter, like Christmas, is one of our oldest holidays.

People have learned that we need trees and birds, and have set aside Arbor Day to remind us to conserve them.

People have learned that it is dangerous to waste our natural resources and have set aside Conservation Week to remind us to use them wisely.

CONTRIBUTIONS OF GEOGRAPHY

We can identify many different kinds of work that people do.

Some products like coal cannot be replaced.

We depend upon bodies of water not only for necessities but also for travel, transportation, communication, and pleasure.

The amount of water available in a community makes a difference in people's ways of living—people live differently in desert lands, in the flood plains of a river, along the seacoast.

Rain, snow, sleet, and hail provide us with water.

There are different kinds of water bodies: brooks, creeks, rivers, lakes and oceans. They differ in size, i.e., a lake is smaller than an ocean; a creek smaller than a river.

GRADE IV

SOCIAL LEARNINGS

Men could not live together without government.

Laws are needed for tribe, family, local government (police, firemen, etc.).

As people live together in communities they develop ways of protecting themselves and their property—this is "local government."

As communities come to depend more and more upon each other they set up larger units of government—township, county, state, and national—to control communication, transportation, the use of rivers and lakes, and other things which they share.

Communities elect people to be their leaders and to represent them in these government units.

Each person in a community or a county can take some responsibility for the welfare and improvement of his own county. Our county is really a larger community made up of many smaller communities like our own.

Our county is different from other counties in many ways—in its natural environment, its weather, its resources, its people, its industries, its recreational facilities.

While our county has its own government, it is part of the State government, too.

Each county in our State depends upon other counties for many of its goods and services.

Our State is a large community made up of many county communities.

CONTRIBUTIONS OF HISTORY

Our county was not a county in Indian times.

Early people settled on this land because of its natural resources or because people they knew were already here.

First they set up governments in separate communities, then these communities saw that they must work together; gradually they set up county, state, and national governments to help them.

Our county has been a county for only years, although the first settlers came here years ago.

People's ways of living have changed in many ways since the early settlers came here—they are still changing and will change in the future.

There are historical places in our county where important events took place or important people lived.

Many people have made important contributions to our State's growth and to that of other states. We learn about our State's growth through studying about these individuals and what they have done.

CONTRIBUTIONS OF GEOGRAPHY

Maps and Globe

We can read symbols for cultural items, such as city and canal.

We can read symbols for natural items, such as rivers, rapids, and mountains.

We can read into the map and globe such relationships as, "The people in this land probably carry on farming because there is a great delta."

We can read directions—north, east, south, west—by means of north-south and east-west direction lines.

We can match a particular item in a picture with the map symbol which represents the item. For example, point to the Nile River in a picture and match it with the map symbol for the Nile River.

We can read comparative distances, i.e., Cairo is nearer the equator than Rotterdam.

We associate seasonal conditions with distance from equator, i.e., summer in Norway is shorter than summer in Italy since Norway is farther from the equator.

We can show on wall outline map each region studied and route of journey from region to region.

Interpretation of Distance

We understand miles as a unit of measure.

We express distances within the county and state in terms of miles.

We express distances to other lands thus: Netherlands is farther from our home than Labrador.

We realize that improved means of transportation reduces the time required to traverse distances; we express distance in hours as well as miles.

ANALYSIS CHART (Continued)

GRADE IV (Continued)

SOCIAL LEARNINGS

Our State depends upon other states for many goods and services, as counties within it depend upon other counties for them.

Our State government is a part of the national government, just as the county government is part of the State government.

Our State has certain resources which make it different from other states.

There are many ways in which people are alike.

There are many ways in which people differ; an acceptance of these differences and a respect for their right to be different are essential.

We need to maintain the openmindedness characteristic of young children.

Respect for law and order, natural or social, grows.

Each child is willing to recognize order in his own surroundings and to participate in activities in an orderly manner.

People depend upon the plants and animals about them for necessities, for work, and for comforts and pleasure.

All plants and animals depend upon people for their conservation.

Many animals are dependent upon us, and we must care for them wisely and kindly.

Some plants are harmful to people and we must learn to guard ourselves from them.

Some animals and insects injure plants that man uses; we must learn how to protect our gardens and crops.

We can learn to understand people who live in other parts of the world by studying how they live and by trying to see why they live differently from us.

We will find as we study these people that they need food, clothing, and shelter just as we do, that they, too, have ways of enjoying themselves, ways of governing themselves, and that they have some kind of religion and, usually, some kind of education for their children.

CONTRIBUTIONS OF HISTORY

Our State has been a state only since 1776. It has changed a great deal in the past, it is still changing, and it will continue to change in the future.

People's ways of using plants and animals have changed since Colonial times.

New inventions have changed and are constantly changing our ways, and will continue to do so in the future.

People's ways of living have changed since earliest times on the earth. In our communities these ways have changed a great deal; but there are communities in the world where people still live in "primitive" ways.

People's ways of living keep changing as they learn new ways of getting their food, clothing, shelter, and other comforts and services.

CONTRIBUTIONS OF GEOGRAPHY

Time and Dates

We express time in such terms as: long, long ago; long ago; past; present; modern; future.

Location

We express location thus: in our county; in northern Pennsylvania; on a river; in the mountains; near the equator.

Charts, Graphs, and Statistics

We can interpret simple charts and pictographs. We can make a simple weather chart showing, among other things, cloud forms.

We can make a simple chart showing length of shadows in each season.

We can make a simple chart comparing the length of daylight in summer and in winter in the lands visited.

Pictures and Landscapes

We can read information from them concerning (1) how people live, (2) how they make a living, (3) what the land is like, and (4) how their ways of living and working fit the land in which they live.

We can associate correct imagery and ideas with particular geographic terms, for example, dune and dike.

Understandings

Man's knowledge and skill help him fit his clothing, shelter, outdoor work, and play to conditions of nature in the region where he lives.

He pays particular attention to seasons. Seasons are the result of sun behavior (the path of the sun in the sky).

Seasons vary with distance from the equator.

People all over the world adapt their ways of living to their natural environment and the climate in which they live.

In some communities people have learned more ways of controlling and using natural resources than they have in other communities.

Our ways of living in our county and State are explained in part by what we have learned from our ancestors, our skills, and the kind of land in which we live.

Fishermen may adjust their ways of living to a far northern land with meager natural resources.

People living in delta lands make use of the rich soil.

People live, work, and play in a mountainous, land-locked country.

People adapt their ways of living to hot, rainy, forested land.

Only explorers have visited the polar regions.

People fit their ways of living in a mountainous land of sunshine with its summer drought and winter rains.

There are nomads and oasis farmers in desert lands.

ANALYSIS CHART (Continued)

GRADE V

SOCIAL LEARNINGS

Self-government and laws of society are interdependent.

Honest work merits respect.

We understand and have pride in our beliefs and heritage, and have loyalty to our ideals and institutions.

We recognize the virtue of self-reliance.

We recognize democracy as a living, growing thing; we realize that what we do and say is democracy in action.

We are willing to defend our ideals and to sacrifice for them.

We are able to recognize change and adjust to it.

People have always tried to improve their ways of living.

One of the ways people make a better living is to trade things which they have for others which they do not have.

People's ways of living depend not only on their location and the natural resources, but also upon the ways in which they make use of them.

Science and inventions (especially machines, transportation, and communication) have made great contributions to our modern ways of living.

Our democratic form of government has made it possible to develop better ways of living.

Good schools and colleges help the people develop their natural resources and to make use of them.

People tend to settle first in new lands like those to which they are accustomed—the Spanish settled in the South because it was most like Spain in climate.

People settle where transportation is easy—the English settled along the broad tidal rivers of the South because they could travel easily by boats.

Soil must be taken care of in order to continue to produce good crops.

All regions of the United States are interdependent.

People are willing to endure great hardships to gain better living and greater wealth.

CONTRIBUTIONS OF HISTORY

Our country was discovered because people in Europe wished to find better trade routes.

When people learned that the earth was round, Europeans spread their trade routes across the Atlantic Ocean.

Several nations in Europe sent men to explore the new land and to set up settlements here.

The English, French, Spanish, and Dutch were the first settlers. People sought homes in the New World to find a better living, to gain wealth, or to have freedom in religion and government.

They did a great deal to start the development of the new land into our great nation of today.

The earliest settlers in America settled along the east coast largely because it was nearest their homes in Europe.

They used the things which they found in the new land, but they needed some other things, also.

Gradually they built up trade with neighboring communities and with their home countries.

Some simple machines (the compass, for example) helped to make trading across the seas more safe.

They brought ideas of freedom to this country and laid the foundations of our democratic government, which is still growing.

Machines and inventions helped to develop the Northeast, as did its location, its natural resources, and the work of many kinds of people.

The settlers in the Northeast depended largely, at first, upon furs, fishing, lumbering, and agriculture.

Over the years, changes took place in their ways of living, and gradually the Northeast became the great manufacturing, transportation and trade center which it is today.

The fur traders were the first to push inland from the coast.

When they learned that greater forests and better farming land were to be found beyond the Appalachian Mountains, many migrated thither, hoping to make a better living for themselves and their families.

They met many hardships in traveling, and their ways of living were very primitive at first.

Settlers soon began to follow them over the mountains.

CONTRIBUTIONS OF GEOGRAPHY

Maps and Globe

We can read the following maps: surface, rainfall, length of frost-free season, and distribution of population, products, and natural resources.

We can read latitude in degrees and estimate distance using one degree for 70 miles.

We can compare several different kinds of maps of an area, i.e., crop distribution, rainfall, and surface, and read relationships from these maps.

We can locate Anglo-America on the globe in relation to the continents, adjoining water bodies, equator, Tropic of Cancer and Arctic Circle.

We can use the scale of miles in measuring air-line distances.

We can locate on an outline map and a slatted globe the most outstanding symbols included in each unit of work.

Interpretation of Distance

We use the scale of miles in measuring distances on a map or globe.

We express distances in terms of miles and time.

Time and Dates

We use, in expressing time, such terms as: Colonial Period, modern times, etc.

We know historically celebrated dates as July 4, October 12.

We realize that different time zones exist within the United States.

Location

We express location in terms of human-use regions such as the cotton belt, and in terms such as the West.

Charts, Graphs, and Statistics

We interpret facts read from graphs.

We use these facts in solving problems.

We make simple pictographs.

We set up new problems from facts read from graphs.

We add wind velocity to the weather record.

Pictures and Landscapes

We recognize the crops studied.

We identify farm activities such as plowing and harvesting; manufacturing forms such as blast furnaces; transportation forms; mine operations such as open-pit mining; and other work activities studied.

We read relationships between the location of man-made items and land forms; for example the railroad is built beside the river because of the level land there.

ANALYSIS CHART (Continued)

GRADE V (Continued)

SOCIAL LEARNINGS

Many people travel to the West nowadays to see its famous scenery and to enjoy its mountains and other natural beauties.

The railroad has been one of the greatest factors in developing this country.

Because of our similarity in resources and backgrounds, we have close relationships with Canada. The two countries depend upon each other for many materials and goods and have interlinking transportation and communication facilities. Although both countries have much the same geography and natural resources, these two great neighbor lands have grown up differently.

The parts of this nation are interdependent. The West depends upon the Northeast for many manufactured products and upon the Middle West for grains and dairy products; other sections depend upon each other for lumber, fish, fruits, and for many raw materials.

CONTRIBUTIONS OF HISTORY

They found some routes easier than others, and these gradually became highways.

Gradually machines and inventions helped them to cultivate the great areas of rich land in the interior, to establish trade and communication with the Northeast and to build up mines, factories, and many other industries in the new region.

Canals were built to connect natural waterways, and soon trade routes were set up.

Many kinds of transportation developed as men invented new machines for farming, for mining, and for transportation and communication.

The Spanish people were the first to settle in the South; later the English developed great plantations there.

The early settlers raised cotton and tobacco, which they traded for other kinds of goods.

They needed many workers on their large plantations and brought in Negro slaves.

The planters did not take care of their soil, and it wore out or was washed away.

The wearing out of the soil and, later, the freeing of the slaves broke up the plantation system.

The West seemed a "land of promise" to the early settlers and they kept pushing westward toward the Pacific. Later the "Gold Rush" brought many people.

The journey was long and hard, and often dangerous, but when railroads were built more and more people moved westward.

The railroads helped the cattle-raisers to find new markets and this business became very important.

Much of the early history of Canada is like that of the United States. Fur traders followed the explorers into the interior. Colonies were established, but they did not grow as rapidly as those in the United States.

Both England and France claimed lands in Canada. Finally England won it, but many French people still live in eastern Canada.

CONTRIBUTIONS OF GEOGRAPHY

We associate certain activities with specific seasons; for example, transporting iron ore over the Great Lakes in summer.

Understandings

How the distribution of work activities and the distribution of population in the United States, in its outlying lands, and in Canada, are related in part to the natural environment in these areas, to the skill and knowledge of the people, and to events in the past.

Why our agricultural interior is the greatest grain and meat producing region in the world. Stabilizing influences of an agricultural society.

How the mines, farms, and forests of the West contribute to our American way of life. A great variety of natural environments and of resources has helped the West to grow so rapidly.

Why the Northeast has become a great manufacturing belt. The Northeast has fewer natural resources than some other sections of our country and it depends upon these sections for food and for the raw materials which it manufactures into finished goods. These sections, in turn, depend upon the Northeast for many goods and services. The Northeast has many places of historical interest and many recreational facilities which attract visitors from other parts of our country.

Why Canada, although larger than the United States, has a population only about twice as large as that of New York City.

Why the "New South" has many industries—lumbering, mining, manufacturing, electric power plants—but is still an important agricultural region from which we get our cotton and many kinds of foods which cannot be raised in colder regions.

The South has many rich resources which are only now being developed. Machines are helping, through improved farming methods, mining, manufacturing, and the production of electric power, to make a "New South."

Why the scattered American lands are valuable to the United States.

Work Relationships

The important kinds of work carried on in each region.

How the work is carried on.

The relationship between work activities and the seasons.

Outstanding features or conditions in the natural environment which help explain the work activities.

What skills and knowledges of the people help explain the work activities.

How one group of workers is dependent upon another.

ANALYSIS CHART (Continued)

GRADE VI

SOCIAL LEARNINGS

An understanding of types of government and the growing complexity of government with complexity of living.

Relationship between government and world affairs.

Some measure of understanding of the differences between totalitarian governments and democratic ideals.

The ability to select and gather the facts before forming an opinion or solving a problem.

The ability to see oneself in relation to the larger group.

A growing recognition of one's duties and the rights of others.

A willingness to assume responsibility.

A respect for the contributions of all groups to our welfare.

Understanding the economic factors underlying our present living.

Recognizing the constantly growing interdependence of people and the need for understanding and cooperation in today's world.

Recognizing the influence of radio, press, and public speakers on formation of opinion.

Because of our geographic location, our trade, industries, and peace are closely linked to those of Latin America.

Because of our difference in language and in background we have probably understood the Latin-American countries less than we have our European neighbors.

A link which has drawn us closer together has been the establishment of airlines between the United States and various Latin-American countries.

North and South America have much to offer each other. As we grow in understanding of each other, we will develop greater interdependence.

CONTRIBUTIONS OF HISTORY

Much of our history parallels that of Latin America.

The earliest explorers came to both continents at about the same time, seeking passages to the East Indies. Later explorers traveled in both continents, seeking their legendary wealth.

Great Indian civilizations flourished in Latin America. The Spanish and Portuguese conquered the land. Colonies were established. Later the colonies broke away from the Mother Countries.

Colonies were established in both continents. The Spanish brought their ways to Latin America. They taught the Indians their ways of living, and learned how to live in the new lands with the Indians.

Life in many Latin-American lands is a mixture of Spanish, Portuguese, and Indian ways of living.

The English, French, Dutch, and other Europeans also brought their ways of living to North America. They drove the Indians ever westward, and there are few traces today of Indian ways of living in our country.

The colonies of America became united in four great groups: The English and French in Canada; peoples from many nations in the United States; Spanish-speaking people and the Indians in Mexico and Central America; Portuguese and Spanish and Indians in South America.

The colonies of South America formed many countries, and these are still seeking to keep their independence.

Perhaps because of this lack of unity, South America, though it has rich resources, has been more slow in developing industries and transportation facilities than have Canada and the United States.

We have made some efforts to increase our understanding—through the Pan-American Union, through travel and exchange of students between the two continents, and by the "Good Neighbor Policy." This is gradually being developed and Latin America promises to become more and more important in world trade.

As in our history in general, we have much in common with Latin America in our admiration of certain national heroes.

We revere Washington as the great leader who helped us win our independence, and who became our first president. The people in Argentina revere San Martin in the same way; those in Bolivia think of their leader Bolivar as we think of Washington.

CONTRIBUTIONS OF GEOGRAPHY

Maps and Globe

We read and interpret symbols shown on a large scale map of a particular site, such as Mexico City or Buenos Aires.

We have learned to read longitude, to use longitude in the calculation of time, and to locate a place when given the latitude and longitude.

We understand the significance of certain lines of longitude, such as the 100th meridian.

We express data in map language.

We can locate Latin America on the globe in relation to the equator, tropics, circles, and poles, adjoining water bodies, and the other continents.

Interpretation of Distance

We understand the significance of great circle routes.

Time and Dates

We group events around periods of time.

We interpret relationships between events of the period.

We understand why there are different time zones.

Location

We use latitude and longitude.

Charts, Graphs, and Statistics

We can make bar and line graphs from a set of statistics.

We can interpret facts read from statistical tables.

We can plan and make a time chart showing important events in American History.

We add the barometer reading to the daily weather record.

Pictures and Landscapes

We read facts about contributions made by different cultures to present-day living; for example, Spanish architecture in America.

We estimate the standard of living of a people from man-made items seen in pictures.

Understandings

The population of Latin America is unevenly distributed.

In tropical regions most of the people prefer to live in the cooler highlands.

In areas farther from the equator lowlands make the better homes for people.

There is now being built a Pan-American Highway, which will reach eventually from the United States to the southern part of South America.

ANALYSIS CHART (Continued)

GRADE VI (Continued)

SOCIAL LEARNINGS

Each Latin-American country has pride in its own heritage, in its struggle for freedom, and in its development as a nation—just as we have in the United States. We should do all that we can to understand how the people of these countries live and how they feel about their own country and should help them to understand us in the same way. Then only can we be truly “Good Neighbors.”

Our common desire for freedom and for independence provides another bond between our country and those of Latin-America.

CONTRIBUTIONS OF HISTORY

We revere Lincoln as the leader in our Civil War and call him “the great Emancipator” because he helped to free the slaves. Juarez in Mexico is revered by the Indians because he helped free them from oppression.

When the slaves were freed in the United States, several Latin-American countries freed their slaves also.

Events in the history of the nation help explain present ways of living and working.

CONTRIBUTIONS OF GEOGRAPHY

In Latin-American countries one sees a mixture of old and new ways of living. Some of the people live much as we do here in the United States. Others live very differently from us, but even these people have many interests in common with us.

Almost all the kinds of work carried on within the United States are carried on in Latin America, too. The Latin-Americans, like the Anglo-Americans, produce a variety of crops. Some crops raised in Latin America cannot be raised within the United States.

Where people live in Latin America, how they live, and what work they do are explained in part by events in their history, in part by the knowledge and skill of the people, and in part by the natural environment.

The Indians had acquired certain skills and the invaders brought their skills to the new land. As time went on the people in some areas learned to use new inventions and new methods in their work.

Latin America extends north of the equator and stretches far south from the equator. There are high mountains, broad plateaus, and vast lowlands within the land. There are regions of abundant precipitation and also desert lands. There is a wealth of natural resources—soils, minerals, forests, and water power.

Each of the Latin-American countries has certain characteristics which set it apart from every other country. Each has its individual personality.

Where most of the people live in a country and why they live there.

How the workers in one country are dependent upon workers in other countries.

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- Possibly the best teacher reference on the habits of birds.
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- A very readable account on weather phenomena. Explains many of the questions encountered by the elementary teacher concerning weather. Contains material suitable to above average 5th and 6th grade children.
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- Contains much information dealing with both biological and physical science, although primarily biological. Useful in telling how to care for plants and animals in the classroom. Many illustrations.

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A good source book on the habits of mammals.

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A standard anatomy and physiology textbook for nurses.

LUTZ, F. E. *Field Book of Insects*. Putnam, 1935.

A well-illustrated small book on insect identification. Considerable information on habits of insects. Accurate.

LYNDE, C. J. *Science Experiences with Home Equipment*. International Textbook Company, 1939.

Contains many interesting activities for children and teacher in the elementary school which will develop science outcomes. Physical Science only.

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Cornell Rural School Leaflets. New York State College of Agriculture, Ithaca, New York. Quarterly, .50.

Contains much useful information of world about us as well as suggested activities. One teacher's number and three children's numbers per year.

Junior Natural History. American Museum of Natural History, Central Park West at 79th St., New York 24, N. Y. Monthly. \$1.25 a year.

Has strong appeal to children through the excellent pictures. Reading material suitable for above-average intermediate child.

National Geographic. National Geographic Society, 1146 16th St., N. W., Washington 6, D. C. Monthly. \$5.00 a year.

Excellent pictures. Reading material not suitable for elementary children. A good teacher reference.

Nature Magazine. American Nature Association, 1214 16th St., Washington, D. C. Monthly from October to May; bimonthly from June to September. \$3.00 a year.

Contains many popular articles and illustrations dealing with Plants, Animals, Astronomy, Conservation, and Microscopy.

Popular Mechanics. Popular Mechanics Co., 200 E. Ontario, Chicago, Ill. Monthly. \$2.50 a year.

Has strong appeal to boys in upper intermediate. Suggests many activities.

Science News Letter. Science Service, 1719 N St., N. W., Washington 6, D. C. Weekly. \$5.00 a year.

A good reference to keep teacher up to date with new discoveries. Written for the non-scientist.

SCIENCE BOOKS FOR PUPILS OF THE INTERMEDIATE DIVISION

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TIPPETTS, KATHERINE B. *Birds of the States*. American Nature Association.

MINIMUM EQUIPMENT RECOMMENDED REFERENCE MATERIALS

Criteria for Selection

1. Reading levels of difficulty should be at levels of groups.
2. Editorship and authorship should be authentic.
3. Format should be attractive and easy to use.
4. Quality and organization of material should be functional.
5. Indexing and cross references should be complete.

Needs for Primary Division

1. Several copies of primary editions of dictionaries for older children of this division.
2. Several copies of a good picture dictionary in each classroom.
3. Factual and semi-factual books in classroom and/or school library, shelved and labeled as to subjects, as: *Animals, Birds, Children of Other Lands*, etc.

Needs for Intermediate Division

1. Copy of intermediate edition of dictionaries for each child, or at least one dictionary for every two children.
2. One or more sets of suitable encyclopedias available for use by all groups. These may be shared by two or more classrooms, although it is more practical to put a set in each classroom, since they should receive daily use.
3. One or more copies of a good intermediate level picture dictionary in each classroom.
4. Factual and semi-factual books in classroom and/or school library, shelved, and labeled as to subjects, as: *Biography, Food and Clothing, History of Our Country, Workers, Regions of Our Country and Other Countries*, etc.

Grade I

INTRODUCTION

FIVE AREAS of interest for units have been tentatively listed and outlined for first grade: (1) Our Homes and How We Live in Them, (2) Our School and How We Live in It, (3) How We Go To and From School and What We See on The Way, (4) How We Enjoy Our Pets, and (5) Holidays and Special Days. Within each area many topics for discussion and study and many activities have been suggested. Points for special emphasis have also been given. As each unit progresses with each class, all sorts of questions may be raised by children and teacher which should be added to those given, or substituted for them.

As can be seen when the suggestions for all five unit areas are studied, these general topics include learnings basic to geography (why shelter is necessary, people need to know something about direction in order to travel); some basic to history (the past-and-present idea); and some basic to science (we use plants and animals, machines help make our work easier, the weather affects our living); and many which are essentially concerned with the social problems of how people live, work, and play together. Care should be taken to include these basic learnings, although the particular facts and problems used may vary extremely from class to class.

No time span has been defined for each unit, nor have the units been given an order in which they must be taught. In each classroom the maturity and backgrounds of the children and the number of grades in the room must be taken into consideration in working out time allotments and the sequence of materials. Each teacher must work out her over-all yearly plan with her principal, supervisor, or superintendent.

The program of studies concerned with the *social living* of people need not be limited to units in these five general areas at this level. The daily experiences of classroom and playground living—organizing routine plans, assuming responsibility for schoolroom care, sharing materials and equipment, solving problems of group activity—all offer rich opportunities for developing children's understandings, their attitudes of cooperation, and of responsibility for group welfare.

Seasonal interests and observation of the activities of the people around them may also be centers through which children may learn to understand that human beings must adapt themselves to weather and climate, that things about us are constantly changing, that the new develops from the old, and that people depend upon many others for the necessities and comforts of daily living. Many more of the other basic social understandings are listed under "Over-all Outcomes of the Social Living Program" on pages 127-130, and in the charts on pages 139-146. They should be kept at the level appropriate to primary children's capacities.

Living together is a large part of what we mean by *Social Living*. Under the guidance of the alert teacher, the whole environment offers possible resources for social living.

OUR HOMES AND HOW WE LIVE IN THEM

This unit is a desirable activity for the first weeks of school because it helps the child to "form a bridge" from his familiar home experiences to the new "home" at school. It lends itself well to reading readiness development and will utilize many of the pre-reading materials provided by readiness workbooks and the earliest preprimers. The children will enjoy and will profit from many "experience reading" charts developed around aspects of home.

Points for Special Emphasis

Here is a group of little children new in school, shy among so many other children, not quite at ease with this new adult, the teacher. What will help them to feel at home? Of course!—to talk about the homes from which they have just come, the things they do there, the members of their family. It doesn't matter, at first, what particular aspect of home they talk about, but gradually certain general ideas become centers. One may be houses, why we need them, where and how they are built, how we use the various rooms and how we take care of them. Another may be how we get our food and clothing, the work done in our homes and who does it. A third may be the plants and animals around our homes.

In discussing these problem-questions with the children, there are endless possibilities for developing understandings and appreciations which are related to the ways in which people live and work together in the family group, and to the ways in which the home depends upon the community for necessities and services. Care should be taken to keep such general understandings simple and within the child's ability to grasp. Being sure that the understandings are closely tied to the children's own first-hand experiences—the things they actually see and do as part of their everyday living—is one standard that the teacher can use to insure that too complex ideas are not introduced before the children are ready for them.

The teacher encourages the children to begin to observe things at home with special purposes in mind: Why do we need houses? Where are our houses built—why do we build them in such places? What materials are used? What different uses are made of materials in the same house—windows, floors, walls, etc.?

Gradually understanding develops that all living things need some kind of shelter or protection; that all the land around us is not the same, and that we try to build our homes in places that are safe and convenient; that our homes are built, largely, of the kinds of materials which are especially available in our own community.

As we discuss the rooms in the house and how we care for and share them, how we get our food and clothing, how we work together to satisfy the many needs of a family, understandings of interdependence begin to form. We realize that all the members of a family depend upon one another and that each one can make some contribution to the work.

We observe in our own homes that we fit our work and play and sometimes our choice of foods (hot soups on cold days; cold lemonade on hot days) to daily weather conditions and to the seasons. Since it is fall and we notice the birds leaving us, the leaves falling from trees, the squirrels gathering nuts, and the animals getting their thick coats of hair, we talk about how we in our homes make preparations for winter—how we store our foods, prepare clothing, get in coal, etc.

We see that each home uses some kinds of machines to make its work easier and we may make a list of all the kinds of machines which are used in our various homes and talk about how they save time and effort and how to be careful of them.

Since many accidents happen in homes, we talk about ways in which we can protect ourselves against falls, burns, cuts, electric shocks, and other mishaps. We should talk about accidents which we know have happened in homes and about how to avoid such hazards.

We talk about ways of making our homes comfortable and we see that machines and tools have importance here also. Perhaps some of us use stoves to heat our rooms, and get our water from wells; others have furnaces, electric lights, bathrooms, and other modern conveniences. (The alert teacher will use as illustrations those things which are real to the children.) We begin to understand that changes have come about in people's ways of living and that they are still changing.

As we discuss how we can make our homes pleasant and beautiful, we become aware of the importance of neatness and order indoors and out and of the necessity of screening windows to keep flies and mosquitoes away, of the value of trees and plants for making the house attractive. We become aware of the effect that the appearance of our house has on

the whole community. We also realize that it is not the appearance alone which makes a home pleasant, but that the members of a family must treat each other with affection and consideration. They must enjoy being together and working and playing together. All members of a happy family try never to do things that make others unhappy.

As we talk and study pictures and story books together, we gradually gain the idea that a home is a place of comfort, activity, affection, and security for all members of its family.

Suggested Problems for Discussion and Study

The teacher will use these questions in the order she deems advisable.

1. Why do people need houses?
2. Where are houses built—on a hill, on a level lot, near the river, other places—and why are they built there?
3. Of what are houses built? What workers help build them?
4. What rooms do we have in our homes? How do we use them and share them? How do we help to take care of them? What storage space do we have in our homes? How can we help to take care of storage spaces?
5. How do we get our food and clothing? How can we use them wisely? What workers help us get them?
6. Where do we get our water and how do we use it? Why is water the most useful liquid?
7. How does our family work together? What can different members do to help? Can we list things we can do, such as drying dishes, sweeping walks, putting away toys, emptying waste baskets? What tools and machines do we use in and around our homes to make our work easier? Which ones does Mother use? Which ones does Father use?
8. How do we get ready for winter?
9. How do we keep safe at home? What kinds of accidents happen at home when we are careless?
10. How do we keep our houses comfortable?
11. How do we make our homes pleasant and beautiful?
12. How must we live in our homes to make them happy places?

13. What plants and animals are around our homes?
14. How does a garden help a home to be useful and beautiful?
15. How does our family have fun? What games can we enjoy on a sunny day, a rainy day, a cold day, a snowy day? How else may we have good times together?
16. How can you tell if you have grown in self-helpfulness?

Some Appropriate Activities

1. Building a Playhouse and Playing Family in It, Indoors or Outdoors

The children and teacher may plan a simple house and work out ways of securing the materials and tools needed. They may select "committees" for the various responsibilities—setting up the walls or marking off a corner of the room or playground, deciding what rooms may be included, making simple furnishings, devising ways of making the house attractive. When it is completed, groups may take turns "playing family"—cleaning the house, rearranging furnishings in various ways, playing at various household tasks, entertaining "guests" with courtesy. This ties in with suggestions made in Arithmetic (1), and with the chapter on "Classroom Living and Management" and also with the Language Arts program.

At first the committees will need the teacher's guidance in planning what to do, and in working and sharing tools and materials without friction. Gradually, with frequent periods devoted to discussions of how we can work well together, children begin to grasp the simple essentials of cooperative organization and action and can learn to work with relative independence.

Out of their activities many opportunities for experience charts are offered. The children may formulate the sentences cooperatively, the teacher will write them on the blackboard and later transfer them to large sheets of brown paper or oak tag. With illustrations drawn or painted by the children, these may be made into "Our Home Book" and used for rote reading. Care should be taken to keep the vocabulary simple, and as close as possible to that of the basic preprimers and primers, and sentences should have only five or six words each, if possible. At this early stage, children will learn to recognize spontaneously a few often-repeated words "by exposure," but they should not be required to learn them.

2. *Visiting a New Home Being Built Near By, Several Times in Succession*

(See pages 47-50 for tips on excursions.)

Before taking the first trip, certain questions may be developed with the children so that they will observe definite things. Some of these first questions might be:

What parts of the house are built first? (Cellar, foundation)

How do workmen know how large and what shape to make them? (The idea of plans, with perhaps a glimpse of blueprints, if available. There should be no detailed study of plans at this level.)

What materials do they use? (The major ones, simply worded)

How do they prepare and use them? (The simplest operations—mixing the concrete, planing the boards)

The second trip would be taken when the walls and roof are being built, with similar guides for observation. A third trip, while the finishing processes are being carried on, will give the children a sense of the many operations, and of the many types of workers, needed to build a house. It will be necessary, of course, for the teacher to watch the progress of the building to choose the typical stages of the process for timing the trips, and to study the operations herself before trying to develop guides for observation with the children.

3. *Science Learnings*

As part of the early "living-together" of the classroom, some science learnings follow naturally from the other activities of the home unit. We learn to wash our hands before lunch. This leads to the discussion of how water helps us at home and how we get our water from different sources at school and in our homes. We may find some pictures showing springs and wells, or ways in which water is used by people and animals. We may try some simple experiments with water—watching the blackboards dry instead of wiping them, letting a wet cloth dry, letting a dish of water evaporate. Where does the water go? Can we see it in the air? Is there always water in the air? Let us watch a few days and see if we can find out the answer to this last question. How did we find out?

Some of the following experiments might be carried on to help the children gain a further understanding of how water passes into the air:

a. Put a cupful of water into a bottle, another into

a bowl, a third into a flat pan. Watch which evaporates first.

b. Put a cupful into a pan which is placed on the warm radiator and another into the same kind of pan placed in a cool corner. Which evaporates first?

c. Make "rain" by heating water in a teakettle until it steams from the spout. Chill a saucepan and hold its side in the steam. See how drops of water are formed and drip down the side.

d. Rain water is "soft." Wash hands in rain water with soap. Use hard water and soap. Result: There are different kinds of water!

Simple understandings of how we depend upon machines, of how we use plants and animals for food, of how plants beautify our homes both indoors and out—these are all part of the child's first contacts with the field of science. They must be kept extremely simple but they contribute to the child's growing understanding of the world about him and of the ways in which man utilizes its resources to give him the necessities and comforts of daily living.

HOW WE GO TO AND FROM SCHOOL AND WHAT WE SEE ON THE WAY

This unit is especially concerned with helping children to be observant of specific items in their familiar surroundings and to understand what they see. It is also concerned with safety learnings. Woven through these special concerns are many related learnings—the idea of weather and seasonal change, the idea of direction and space, the idea of respecting the rights and property of others, the idea of many people at work (service and construction), and the idea of public institutions as different from homes, stores, and other privately owned buildings.

This is a unit which is best taught on an irregular time basis throughout the year. Each teacher should make her own plans. Perhaps a week early in the fall should be selected for planning trips and activities with the children and for getting them started—perhaps thereafter, using a few minutes each morning as informal "conversation"; perhaps planned seasonal walks once a month, and a resulting day or two of related activities. Perhaps some of these ideas will fit in with others of the suggested units for this year. Perhaps some of this material will be used best in activities planned for oral language, or reading. The possibilities are almost endless, but they should

be *planned*—by, for, and with the children in their own community setting.

Points for Special Emphasis

As we travel to and from school we use many kinds of transportation — we may ride in a bus; Father may bring us in the family car or we may come in the milk truck; in some places we may ride in trolley cars; if we are mature enough, and if the roads are not too crowded, we may be allowed to ride our bicycles.¹

We must learn first how to protect ourselves against accidents. What accidents happened going to or from school? Why? Gradually we begin to be conscious of the many kinds of transportation used in our neighborhood and that some are faster than others. We may ask Mother or Grandmother how children rode to school when they were little and thus get the idea of how the past was different from the present in our neighborhood. Historical markers which we pass will point our attention to special events or people of that earlier time.

Knowing our home address, seeing where some other children's homes are located and learning which children travel farthest to school, learning where different places are—these activities give us our first learnings of space and its relation to time in transportation. Watching the changing position of the sun on the horizon helps us to learn that the sun rises or sets daily in the same part of the sky, but not in the same spot. Comparing the height of our shadows at different times and seasons shows us that they, too, change with the time of day and with the season. Gradually we learn that “the sun is in the *east* in the morning and in the *west* at night.” From this we may go on to the direction in which we travel in the morning and at night and see that people need to know something about direction in order to travel.

As we come to school day by day we see changing color, beauty, and movement in our natural surroundings. Leaves change color and finally drop, leaving bare branches interlaced against the sky. Many of the birds gather in flocks, then disappear. The noisy chirping of insects is hushed as the cold approaches. The squirrels busily gather nuts in the warmer months, then we see them only when they leave their warm winter retreats. People are wearing heavier coats. Sometimes a crisp cold wind is blowing. One morning the roadside puddles are skimmed with ice and the bright flowers of fall droop with

the first “black frost.” Soon it will be winter. It won't be long until we can use our sleds and skates.

Children see these evidences of seasonal change as they occur but often they, as do adults, fail to understand their significance. Why do these things happen? Who is “Jack Frost” and where does he come from? (Frost is another kind of water.) Where does the snow come from? (Snow is another kind of water.) Can we learn some of the answers to these questions through using our eyes? (Go to our proof for our authority, rather than to our authority for our proof.) Can we learn some things through asking grown-ups? Can we find some answers in pictures? If we find some reading under a picture which seems to help, can we ask the teacher to read it to us? Soon we can hope to read some of the words for ourselves.

As they often fail to see significances, little children often lack “eyes” to see natural beauty. If the teacher herself loves the outdoors she can do much to open their eyes. On the easel, let's make a painting of the maple tree out there — what colors can we see in it? Did you ever hear the poem about “My Shadow”—does your shadow “go in and out with you”? This song tells about the birds flying south—can you close your eyes and hear the flutter of their wings? Would you like to play that you're birds and fly lightly as they do? Here's a story about Johnny Woodchuck—can we play it?—Art, poems, music, rhythms, dramatization, just talking about “the prettiest thing I saw coming to school”—all of these help little children to become aware of the beauty and interest which surround them as they go to and from school.

Each day we pass other people's places, use other people's cars, buses, or trolley cars. Part of our learning must be that we should respect other people's property and treat it as carefully as if it were our own. We learn not to cut across people's lawns or break their shrubbery. We learn to throw stones well away from buildings with their tempting windows. We grow day by day toward self-reliance and independence in taking care of ourselves and in managing our own behavior as nearly like grown-ups as possible for six-year-olds.

Suggested Problems for Discussion and Study

1. How do we travel to and from school?
2. How long does it take us to reach school if we walk; if we ride a bus?

¹Department of Public Instruction, *Bicycle Safety, Education By Practice*, Bulletin 394, Revised, Harrisburg, 1949.

3. Who in the class lives farthest from school; who, nearest? What time must each one start to school?
4. Why should each one of us know his home address and telephone number?
5. Why do we need to know where places are in our neighborhood?
6. Why do we need to practice being careful as we walk or ride on the highway?
7. Why should we obey the policeman's directions?
8. What do we see on the way to and from school? (Houses, stores, other buildings, plants, animals, people and their activities, the river, a creek, a farm).
9. Who owns the buildings, stores, and houses we see? (The idea of public and private ownership.)
10. How should we behave on and in these places we see?
11. What signs tell us that some buildings are much older than others?
12. What historical markers do we see on the way to school? What do they tell us?
13. What work do we see people doing as we come to school?
14. What do we see on some of the trucks driving through the streets? (The milkman and his wagon, the bread wagon, ice-cream trucks, etc.)
15. What changes take place from day to day or week to week in the things we see? Snow on the roof—another "form" of rain? Are there new buildings or new roads being built? Are there houses, buildings, roads being renovated, repaired?
16. What changes in weather do we notice from day to day?
17. What do we wear to school on a warm day; a cold day; a rainy day; a snowy day? What do you like to eat on cold days? On hot days?
18. How does the position of the sun change with the season? Where do we see the sun in the sky in relation to the school when we come in the morning; when we go home in the afternoon?
19. How does the length of day change during the year? When do we have long days? When are the days short? (Observe shadows.)
20. How do the plants change with the season? What foods are in season? (Potatoes in fall, ap-

ples in fall, strawberries in spring, blueberries in summer.)

21. How do animals change with the season? Reasons for adaptations.

Some Appropriate Activities

1. A Map

This is the children's first introduction to the idea of a map and should be kept very simple. On a long strip of yard-wide wrapping paper placed on the floor, in classroom or corridor, we can make a drawing in color showing the school, the door from which we started, and the streets, showing the direction we went and the corners we turned, and some of the buildings we passed in the immediate neighborhood. We can trace the routes by which those who walk come to school, or the last few blocks of the bus route. The places for crossing streets and roads most safely can be worked out on the map. Later, we can trace the routes of our seasonal walks. Care should be taken to have *north* of the map, toward the true north side of the room.

2. Seasonal Walks

Even though all the children walk or ride daily to school, all may not have the same opportunity to observe certain evidences of seasonal change. A periodic group walk to the same special "observation point" from season to season—if preceded by discussion to pick out specific points to watch for—will help them to observe and realize the effects of the passing seasons upon the activities upon the street, upon a park, a garden, a woodland, or any chosen area.

The science learnings of such seasonal walks are of endless variety. Some are suggested below for each season; the children will notice others as their ability to observe increases. Many may be found in science readers and picture books.

- a. *In Fall*—that the days grow cooler gradually (a thermometer may be observed, just to get the idea that it measures the heat or cold, but with no attempt to read it required); that plants prepare for winter in various ways (some store food in bulbs, others form seeds, most trees drop their leaves but a few are "evergreen"); that animals prepare for winter (some sleep, some store food for winter months, many get thick warm coats of fur, some get white coats for protection in the snow); that many birds migrate to warmer lands but that some (that live largely on seeds) stay in the north; that the landscape looks different in

late fall from the way it looked when school began; that we humans prepare for winter by storing food for ourselves and our animals, by getting warmer clothes ready, and by preparing our homes for cold weather. These can easily be developed as a parallel to these changes in nature.

- b. *In Winter*—that days are short in winter; that days are cool or cold; that snow often falls instead of rain; that we see few birds and wild animals and hear no insects chirping. People's activities change, also. They wear warmer clothing, they have to heat their houses, their foods may be different; for recreation many ski, skate, coast, fish through the ice and enjoy other kinds of winter sports. Some may go to warmer places for part of the cold months.
- c. *In Spring*—that the days grow gradually longer and warmer; that spring is the "awakening time" for plants and animals; that plants spring up from seeds and grow faster as the days grow warmer; that birds come back from the south and begin building nests; that many kinds of animals have their babies in spring when birds and animals can find abundant food for themselves and their young. Human beings, too, greet the spring with joy. Farmers prepare the soil and plant their crops; many people plant gardens and flowers; spring sports and outdoor pleasures bring everyone into the open air.

The seasonal walks are rich in opportunities for social learnings as well as those of science. Planning for them is a cooperative activity; courteous behavior in public places and respect for the property of others are a natural outgrowth of such walks if children are guided to those goals by group discussions and evaluation. See pages 47-50 for tips on field trips.

3. *Watching the Building of a Street or Road*

Periodic trips to see a near-by street, road, or sewer being built are valuable for first graders. The children become aware of the many workers needed, of the heavy work involved, and of the function of machines in speeding up heavy work. They come to realize the long period of work required. They gain an appreciation of commonplaces, such as streets or roads, in terms of the time and labor necessary to build them.

4. *Some Science Experiments and Activities*

- a. *Finding Different Forms of Water.* During the span of the school year water may be observed in all its forms—rain, dew, snow, hail, and ice in many guises. Ice may be observed on the tops of

puddles, on ponds, in icicles on roofs and in many other places which will interest the children. In some cases ice crystals may be found and compared with snowflakes. Melting of ice or snow proves to the children that these are forms of water.

- b. *Enjoying Our Shadows.* Our teacher reads us a poem, "I have a little shadow . . ." Is my shadow always "little"? At what time of day is it tallest? shortest? Is my noon shadow the same length in winter as in fall and spring? Does it always point the same way at noon? We can go outdoors on the same date each month and find the answer to these questions.
- c. *Finding Animal Tracks.* When fresh snow has fallen in the night its surface has many tales to tell in the morning—here a rabbit hopped slowly, there he was frightened and made long leaps, here mice scurried from clump to clump of grass, there a pheasant walked. Can we learn to read these stories together? Even city parks have bird tracks.
- d. *Studying Buds.* The first warm days are here; let us see what secrets we can learn from the trees. We bring in sprigs from the poplar, the maple, the forsythia, and look at them through a magnifying glass. If we open a bud carefully we can see tiny leaves or flowers folded inside. Next week we pick sprigs from the same trees and see what has happened in this period; perhaps, the next week, the buds are opening, or we may have to wait even longer. How long does it take? Which buds open most quickly? Which are longest in opening?
- e. *Collecting Rocks and Shells.* In the fall walks we may visit a stream and find some shells to put in our science corner. Or we may find some pretty pebbles, and discover, when we wash them, that their colors shine out clear and bright. We may watch a bank near the school to see how it is washed away by fall rains, cracked and broken by the frost, washed still more by the heavy rains of springtime. This is a beginning of the concept of erosion.
- f. *Testing the Sun's Heat.* If we hold a magnifying glass in the sun and place a hand under it we can feel its heat very plainly. If we put a nail in the sun, and another in the shade, for an hour or two, and then feel each one, we will find that the sun can heat metal.
- g. *Learning About Machines.* Many of our toys are machines. Let us bring some to school and see what makes them go. Here is a wooden train—

how can we make it move? Here is one which winds up—what makes it run? Here is an electric train—how can we make it run? How can we stop it? What makes a bicycle or tricycle go? A railroad train? An airplane? An automobile? How does the driver stop his car? (The brakes rub on the wheels, the wheels rub on the road, and the car stops—just as we drag a foot on the sidewalk to stop a scooter.) How should we be careful with our toys in order that no one will be hurt? We try to move this heavy box of blocks. Now we put them on a wagon and it is easy to move them. What makes it so easy? Think of some other things which wheels do for us. How do men take care of their machines? How do we care for our toys? How do we care for our school supplies? Let us watch the machines the men are using to build the road. What makes them go? Which ones are stopped with brakes? Which ones are stopped in other ways? Could the men move these heavy loads as quickly without the machines? How would they have to do it? How long might it take?

- h. *Finding How Seeds Sprout and Plants Grow.* Line a tumbler with a single sheet of blotting paper. Place about one-half inch of water in tumbler. Place several seeds—lima beans, peas, corn, etc.—between the blotter and glass, and distribute them between the surfaces so that where the tumbler is placed on the window-sill the rays of the sun will not touch all seeds for the same length of time. Have children raise questions and observe seeds for answers. Keep about one-half inch of water in tumbler.

HOW WE ENJOY OUR PETS

Pets¹ are of special interest to young children, and through this subject many learnings may be developed. The care and feeding of pets, either at home or at school, help the children to be aware of their own health needs—adequate and balanced food, plenty of water or milk to drink, cleanliness, fresh air, rest. Taking turns in caring for pets builds a sense of responsibility and cooperation. The necessity of regularity in feeding and rest times for pets develops the understanding of routine and its importance in our own daily lives. The enjoyment they derive from pets leads children to appreciate the value of animals for other purposes than the work or food which we gain from them.

¹ The American Society for the Prevention of Cruelty to Animals, 50 Madison Avenue, New York 10, N. Y., has an excellent resource unit for primary grades on *Our City Pets*. Price 25c.

A large share of the library books which are available for primary children has to do with pets, and the enjoyment of these picture books and of simple stories about animals contributes to children's desire to read for themselves. Preprimers and primers, the simple science textbooks for first grade level, and innumerable magazine pictures will also provide resources for looking at pictures of pets, talking about them, "making stories" (or poems and songs) about them, and eventually reading about them.

The pet unit need not be taught at any particular time but may be carried on with the home or school unit, or it may be extended over many weeks as an accompaniment to several of the units suggested.

Points for Special Emphasis

Many kinds of animals are kept for pets, and children will enjoy thinking of the names of all the pets they have seen or heard of. While it is hard to tell *why* we enjoy pets, we can each tell how we play with and enjoy them. Much good individual language practice is offered through this kind of simple reporting, and children can be helped to think of varied words to describe their pets, and to use whole sentences in speaking.

As the children talk about the care of pets, many good health angles may be developed—that many pets drink milk, that others eat vegetables, that they must be kept clean, that they need plenty of water to drink, that they need fresh air. Emphasize good nutrition and humane treatment of animals.

A second aspect of their care which should be stressed—especially in regard to schoolroom pets—is that they, like children themselves, need plenty of rest and sleep, and that we should not handle and play with them too much. This consideration for animals is an important learning for young children.

Safety is another aspect which should be stressed in discussing pets. Accidents may occur because children are rough with animals who retaliate in the only way they can.

In the selection of possible schoolroom pets careful thought should be given to kinds which will be happy and healthy there, and for which the room has acceptable facilities for their care. Pets which do not require special attention over weekends are a good choice, for example, aquarium or terrarium animals. Wild animals, in general, do not thrive in indoor atmospheres and often die for lack of proper food. Animals which are noisy, such as a parrot, and those which may have an unpleasant odor, such as

guinea pigs, are not desirable occupants of a school-room. Careful discussion, based upon the children's own experiences with pets, should precede whatever choices are made by the group. Particular attention should be given to the undesirability of buying (and fondling) colored baby chicks at Easter.

The discussion of taming a wild animal will often reveal that many such pets have died. Such evidence should lead children to realize that it is rarely desirable to remove wild animals from their native habitat, and that it is cruel to deprive them of their accustomed liberty. Note the variety of teeth in animals, adapted to eat their particular kinds of food. Some animals grow new teeth—humans must take care of the ones they have.

In general, the pet unit has two main values: that of appreciation of the pleasure which well-cared-for pets may provide us, and a realization that this pleasure is earned through providing animals with adequate care and consideration. Such care and consideration help to develop children's ability to take responsibility and their awareness that human beings have social relations with animals as well as with people.

Suggested Problems for Discussion and Study

1. What animals do we have for pets? Why do we like them?
2. How do we care for our pets?
3. How must we be careful in playing with them? Why? (Both safety and humane reasons.)
4. What pets can we keep in our schoolroom? In our homes?
5. What will they need to be happy and healthy?
6. Have you ever tried to make a pet of a wild animal? Are wild animals desirable as pets? Discussion of wild animals as pets. (Reasons why baby animals should not be taken from mothers.)

Some Appropriate Activities

1. "Telling" Periods

Early in the year when some children may be shy about talking before the group, a daily "telling" period, when anyone who has something to tell may have his turn, will often encourage even the most shy child to talk. A special day for telling about pets may be chosen as an introduction to this unit and

children may bring kodak pictures of their own pets, or find magazine pictures that look like their own pets, to illustrate their talks.

2. Having a Pet in School

A rabbit, a hen, rooster, or some other pet which makes a desirable schoolroom occupant may be brought in by a child, or by the teacher. Planning and making a "house" for it, planning how to get the right food for it, organizing feeding and cleaning committees, and checking on the committees' work will all provide worth-while social living experiences for the children, as well as offering a source for natural language and reading activities. Although grown rabbits eat lettuce, baby bunnies must have milk or they may have colic and may often die. It is important to learn about foods that keep us all well. Holiday periods should be taken into account.

3. Making a Feeding Tray for Birds

School pets need not be in the schoolroom. In many places, there are many birds around the buildings and, as cold weather approaches, they will come eagerly to a tray containing suet, nuts, cracked corn, sunflower seeds, and other foods. Suet in bark of trees is much enjoyed by chickadees and creepers and woodpeckers. If possible, the feeding station should be observable from the windows, but not too close to them.

4. Holding a Pet Show

This is fun if an outdoor space or a large room is available for it. Care should be taken to see that each pet is properly housed or fastened so that they cannot harm each other. Enjoyment of each others' pets should be the purpose of the show, not competition for prizes. Pets should be well when brought together. If one is ill, others often become ill, too.

5. Art and Music Activities

Drawing, modeling, and cutting pictures of pets, and the foods they need, making friezes and other art and handwork activities will grow naturally from the children's interest in pets. Many songs and rhythms, also, will be found appropriate to this unit.

6. Visiting a Zoo

If it can be handled without confusion and fatigue for the children, visiting a zoo is a desirable activity, but it is not essential to a unit on pets. It might be more desirable for second- or third-grade children whose reading activities could be more effectively related to it.

7. Observing "Be Kind to Animals Week"—(See Appendix.)

This may be a part of the unit on pets, or it may be a review and reminder of things learned earlier, through this unit. (See note under Unit, "Holidays and Special Days.")

8. Making Toy Pets

NOTE: In some school systems, live animals may not be kept in school. Much interest and activity can be centered around a toy dog—one made by teacher and pupils working together using papier-mâché (newspaper, paste, and string). As the children adopt this dog for their very own they will provide him with a house to protect him from wind and cold, a winter coat, a family, clay dishes to hold his food, and even enter him in a dog show. Stuffed animals are nice for "sharing Christmas" with hospital wards, children in an "adopted" family, etc.

OUR SCHOOL AND HOW WE LIVE IN IT

This unit also may be interwoven with the reading readiness and preprimer reading activities since much reading material is centered about the school and children's activities there. Here a new range of cooperative activity opens to the child, in a group larger than the family group: with other children; with the teacher, who becomes in a way the "mother" of the group; and, usually, with other teachers, the principal, the janitor and other adults who help the school to operate. The child's appreciation and understanding of the interdependence of people should broaden through the activities of this unit.

Points for Special Emphasis

Why not begin this unit by taking a tour through the school? We'll have to make certain plans for our tour. For example, we must be reasonably quiet, for others are working. After the tour, we'll want to talk about what we saw. We'll have some questions to ask, too—questions which we shall try to answer through our activities. (Try to get the children to ask questions of the kinds listed—*how, why, what* questions.)

Through discussing the questions listed and carrying out some of the activities suggested here, the child should come to realize the way in which we depend upon each other in school: how we can settle problems which arise by working together; why

the school has times for work and times for play; how the weather may make us change our plans about work and play; that the community built this school for us, it is ours, and we are proud of it; that we try to save the natural beauty surrounding our school and try to improve the appearance of our school's surroundings; that plants and animals make our schoolroom more interesting and more beautiful—the plants and animals need care, they need food and water; all living things need air; that we do many things to make our school more comfortable, safer and more healthful—for example, we heat the schoolroom in winter; we see that we have fresh air and good light. (The child should also get some idea of past and present, by contrasts between "how Father went to school" and "how Grandmother went to school.")

Suggested Problems for Discussion and Study

1. What are the parts of our school and how do we use them?
2. How do all the people in our school work together to make a good school? How can each child help?
3. How do we care for the plants in our schoolroom?
4. How do we care for animals in our schoolroom?
5. How is our school made comfortable?
6. How is water used in our school?
7. Why do we try to keep fresh air in our school?
8. How do we make our school attractive?
9. How can we work and play together happily in our group?
10. How can we keep safe and healthy so we shall not miss any school?
11. What about our school lunch? If lunch is carried, discuss packed lunch—also good breakfasts for growing children.
12. What can we do to avoid being hurt in school, on the playground, coming to school, going home and at home?

Some Appropriate Activities

1. Make a Trip Around the School Yard

Is there room for a school garden? Discuss how it is used. How can we make it more attractive? Flowers? Vegetables for the school kitchen? What signs of good care do we see? What signs of neglect? What can we do to help keep the school grounds attractive? (Grass, paths, papers, shrubbery, trees).

2. *Have the Janitor, Principal, and Others Come into Our Room*

We'll ask them how they can help us. We'll ask them how we can help them. Visit these people in the places where they work.

3. *Keep a Daily Weather Record for Each Month of the School Year*

Rule a large sheet of paper as the calendar is ruled. Decide on a simple key for the weather calendar. For example, use a cut-paper yellow circle to show a sunny day, a cut-paper blue umbrella for a rainy day, and a cut-paper snowman for a snowy day. Write one class news item each day to match the weather for that day, for example, "We played indoors today because it was raining," or make a series of pictures of different kinds of days, for a "Weather Book."

4. *Experiment with Air and Wind*

See how they affect different things, that we may know how important air is to life. These occasions will arise naturally in "living together" through the year—birthday and holiday celebrations, and play.

- a. Walk out of doors on a windy day, feel the wind *push* against you. (Read Stevenson's poem "The Wind.") The wind has force and power to make things go.
- b. Make a pin wheel, blow on it to make it move. Try it out of doors on different days. *What makes it turn?* Does it always turn at the same rate of speed?
- c. Lay some loose papers on a desk, and swing a fan near them. What happens to the papers?
- d. Blow soap bubbles and let them burst. Blow up a balloon until it bursts. What do you hear? What makes the noise? (Force and power?)

We learn from these experiments that air has force—a little when we blow lightly, more when air is shut up tightly and allowed to rush out. We learn that the wind is air in motion, too, and that its force varies.

- e. Cover a lighted birthday candle with a glass and see what happens. (Whenever candles are lit, safety must be emphasized.)
- f. Hollow out a pumpkin but do not make its eyes, nose, and mouth. Light the candle and put the top on. What happens? Then make the openings, and light the candle again. What happens? We learn that a flame, as well as all living things, must have air.

¹ Bibliography, pages 156-157, and Appendix.

HOLIDAYS AND SPECIAL DAYS

Some holidays have more meaning and interest to kindergarten and first-grade children than others. Halloween, Thanksgiving, Valentine's Day, Easter, and Mother's Day are usually observed in the natural progression of the school's activities. (See the Appendix and pages 156-157 for Bibliography.)

Christmas,¹ however, has been selected for special observance in kindergarten and first grade because of the children's absorption in Santa Claus and in the whole colorful panorama of the Christmas season. Children of this age are also sensitive to the religious meaning of the Christ Child's birth. For these reasons, both the legendary approach involving Santa Claus and his reindeer, and reverence for the Child and Mother may be developed without violating the children's conceptions. But even at this early age, children may come to realize that Christmas is celebrated differently by different groups of people in their community.

Points for Special Emphasis

Christmas is a time for reverence as well as revelry and gift-giving. As we talk about its coming we can develop simply but reverently the understanding that it is the time when we celebrate the birth of Jesus, that there are people all over the world who are Christians, or followers of Christ, that Christ was born long ago and that we number our years from the date of His birth. Through emphasis on sharing the plenty which is ours with others less fortunate than we—in our community and in far-off lands—we can also help primary children to appreciate, at their own level, that "it is more blessed to give than to receive."

The Santa Claus interest, which is so high with primary children, need not be contrary to this Christian idea of Christmas, though it should not be confused with it. Children's acceptance of Santa Claus as the "spirit" of Christmas friendliness and generosity contributes to their love of the jolly old man in the same way that the Christmas tree enhances their delight. Both Santa Claus and the Christmas tree are part of our European heritage, but they are both legendary aspects of a holiday which is basically Christian in origin. The understanding that we brought this legendary observance with us from Europe ought to help them understand, also, that people from other countries and races have different kinds of celebration from ours.

Since decorating and enjoying a schoolroom tree is so often a part of the Christmas fun, some discussion of kinds of Christmas trees may be a natural part of the Christmas activities. In this connection certain aspects of conservation, safety, and of the care of and respect for property should be emphasized: That we should not destroy trees needlessly and that decorating an outdoor tree is preferable to having a cut one indoors (many families have a tree in a tub which is moved indoors for Christmas); that we should not take trees and greens from other people's woods (in fact, this is unlawful unless we have the owner's permission); that evergreens burn very easily and that we must not have flames or matches near them, and we should be very careful in burning them after the holidays.

The symbolic significance of using an evergreen tree at Christmas because it represents everlasting life is probably too abstract an understanding for children of this age.

Suggested Problems for Discussion and Study

1. Why do we celebrate Christmas?
2. What do we call people who are followers of Christ?
3. How can we best enjoy the Christmas season?
4. Why do we call Santa Claus "the Spirit of Christmas"?
5. What do we mean by a "white Christmas"? Why do we like to have this kind of weather at Christmas time?
6. Why do we have Christmas trees? What kinds of trees do we use? Why? Why should the tree be fresh? Electric lights should not be on when we are away from tree! We should never use lighted candles on the tree. (Prevent fires.)
7. Do you know of any people who celebrate Christmas differently than we do?
8. Can we make something for Father and Mother?
9. Some children like to share Christmas with other children. The school nurse and commu-

nity center can supply age and sex of a needy child or a description of the members of a needy family. (Name withheld, however.) What shall we put in a Christmas basket for our "adopted" family's Christmas dinner? Study of food groups and meal patterns.

Some Appropriate Activities

Certain activities have become almost traditional in our schools at Christmas time. One of these is the Christmas program given by the children for parents. It is desirable, since both aspects of Christmas are usually included, to separate the legendary Santa Claus aspects, by some sort of suitable intermission, from the beauty and reverence of the creche and the Bible story.

Other special days or weeks which we may wish to remember in first grade:

October—The fall Arbor and Bird Day—watch for the Governor's Proclamation. This is a good time to talk about birds' travels to warmer lands. Reasons to be careful with forest fires.

November—Book Week. We might look over our room library and have some special story hours. We might talk about how we take good care of our books. We might mend torn pages if there are any.

February—Father and Son Week. We might talk about our fathers and what they do for us. Perhaps we could think of some ways in which sons could help their fathers, or some ways of having fun together.

April—Be Kind to Animals Week. This is a good time to think how we can take good care of our pets and farm animals all through the year. Care in handling animals.

May—Mother's Day (the second Sunday). We may talk about mothers and how they help us. Perhaps we can have a party for them or make a little gift for each of them.

Birthdays—Celebrate a newcomer's birthday by having a party. Children plan and prepare the refreshments, the entertainment, etc. Consider and practice social usages.

Grade II

INTRODUCTION

THE EMPHASIS in the Social Living program in the first grade was placed upon those things closest to the child's experience—his home and his school. In second grade he is ready to look beyond these to the community which surrounds them. The five areas of interest for units suggested here are concerned with the various aspects of the community: its physical factors, its work life, its people, and the interdependence among people and among their occupations and services. After the unit on "Getting Acquainted with Our Community," which is specifically an introductory unit, the sequence of the units is not of importance and the teacher should use her own judgment, based upon the children's readiness and upon the life and activities of the community, in selecting the order in which they may be taught, and the amount of time and emphasis put upon them. Over-all yearly plans should, of course, be approved by the proper local administrator.

As can be seen when the suggestions for all five unit areas are studied, these general topics include learnings basic to geography (that shelter is necessary, that people need to know something about direction in order to travel), some basic to history (the past-and-present idea), and some basic to science (that we use plants and animals, that machines help make our work easier, that the weather affects our living), and many which are essentially concerned with the social problems of how people live, work, and play together. Care should be taken to include these basic learnings, although the particular facts and problems used may be extremely varied from class to class.

Seasonal interests may also be centers through which children may learn to understand that human beings must adapt themselves to weather and climate, that things about us are constantly changing, that the new develops from the old, and that people depend upon many others for the necessities and comforts of daily living. Many more of the other basic social understandings are listed under "Over-all Outcomes of the Social Living Program" on pages 127-130, and in the charts on pages 139-148. They should be kept at the level appropriate to primary children's capacities.

Living together is a large part of what we mean by *Social Living*. Under the guidance of the alert teacher, the whole environment offers possible resources for social living.

GETTING ACQUAINTED WITH OUR COMMUNITY

This is to be thought of as a short introductory unit, designed to broaden the understanding already gained by the child of how one's own home depends upon many outside sources for necessities and services, into a conception that all the people in a community depend upon each other in many ways. The

word *community* may be used in teaching the unit, but the meaning should be developed by observation and discussion, not by an attempt to have children give a definition of it in words. The approach to the unit might well be to review briefly "How We Go to and from School" (Grade I) and to bring out

in the children's discussion such questions as those suggested in the following paragraphs.

This approach to the unit might be developed in the early days of the school year, by discussing how we get to school and back with the emphasis on safety measures which we must take to avoid accidents. From this the discussion might go on to such a question as, "What people help us travel to and from school?" and then "What people help us to travel to other places?" and "What people help us to keep safe as we travel?"

As these people are named it will become apparent that some of them live near by in our rural or city neighborhood, or in our village or town. We may say that these people live in "our community." Others may live farther away—in other "communities."

After the word "community" is thus partially developed it may be used in succeeding discussions, around such questions as: What people in our community help us to get food? clothing? letters? news?

As these discussions proceed we might make a big chart listing "Our Community Helpers," perhaps in two columns—one, those who live in our community; two, those who live in other communities. From this chart, when the time comes, we might choose those which we wish to study more fully in other units during this year.

The idea of the community as a geographic whole might be developed by asking "How do we find our way around in our community?" A rough map of the community may be laid out on the floor and children may sketch on it how they come to school, go to the store, go to church or the movies, go to the bus or railroad station, go to the airport, and other routes which they habitually use. No emphasis on "directions" as such need be made, but the map should be laid out in the same way as the community lies, in relation to the school (North on the map should be in the real north direction), and should be roughly to scale, in order to help the children *feel* the direction and areas accurately.

As a part of their geographic learning the children should continue the daily weather record used in first grade. (See "Our School and How We Live in It," Grade I.) The class may decide on appropriate symbols to indicate various weather conditions. In second grade the children may also read the thermometer and place the daily outdoor temperature upon their record. This should be done at the same hour each day. A large indoor "thermometer," made of oaktag with an adjustable ribbon "mercury," may

be set each day to correspond with the outdoor temperature to further the children's skill in thermometer reading.

Another question, "What are some interesting places in our community?" might lead the children's observations to parks, historical spots, public buildings, airports, and other places, and these might be marked on the map.

People are always of interest to children and such questions as "Who are some interesting people in our community? Which ones might be called 'leaders'?" would develop the understanding that, in any social group some people assume leadership.

In order to help the children observe the community thoughtfully and feel a sense of responsibility for their share in its welfare, questions like the following might be raised:

1. Do we see any ways in which our community might be improved? Concrete evidence such as poor streets or roads, trash piles, papers on the streets, and other easily observed factors, will probably be all that the children name. These might lead to a second question:
2. Could *we* do anything to help improve these conditions? The idea of civic responsibility, even for pupils in the second grade, might lead to a "Clean-up Week" in which the children themselves would act in committees to remove papers from the schoolgrounds or streets, and encourage their parents to clear away trash piles or to consider ways of improving streets and roads.
3. These discussions might lead to a consideration of all the ways in which we may be "good neighbors" in our community. The children's answers (and the teacher should not attempt to develop them on an adult level) may be made into another chart headed "We Can Be Good Neighbors." This chart may be extended as the year advances and the children become more community-conscious and more aware of ways in which they can contribute to the welfare and betterment of the community group.

Some Appropriate Activities

1. Build a model of the "community" on a sand table or the floor. Put in the things that make a community—homes, streets, public buildings, churches, parks, stores, communication, and transportation lines, etc.

2. Dramatize the work done by our community helpers—at first separately, and then show how each helps the other.
3. Construct all the safety markers you notice in your community. Safety zones, walking lanes, etc.
4. Paint a frieze (putting houses, streets, etc., in correct relative positions and encouraging children to express their own ideas).
5. Make puppets and play being different people, "I'm the policeman," "I'm the shoemaker," etc.

WORKERS IN OUR COMMUNITY

The word "workers" has been used in this unit rather than the word "helpers" suggested in "Getting Acquainted with Our Community," so that the children may gain an appreciation of the importance of various kinds of work, beyond those which serve us directly. For example, a small village may have only one industry, a dress factory. Its products are usually sold wholesale to outside jobbers. The children may not be served by it directly at all. But its *workers* are members of the community, gain their livelihood from this factory, and contribute to the community economically and in civic activities.

However, in ordinary situations, where the community has a variety of workers to draw from, the unit should center about those workers whose services or products are used by the children themselves, in preference to others whose relationship to the children's own lives is less direct. The children should come to respect and appreciate work; that there is work for each of us to do in the home, the school, and the community.

Five types of workers are suggested here, among which the teacher and children may choose the workers in which they are especially interested:

1. *One Who Supplies Us with Food Directly*—Most communities have at least one grocery store and it is always of interest to the children; so this will probably be chosen by many groups. Others might be the market man, the truck farmer, the baker, the dairyman, etc.
2. *One Who Brings Us Messages*—The rural mailman, the village post office, and the city postman fulfill important needs in a community and are of interest to children. The radio, newspaper, and telegraph offices are also interesting.
3. *One Who Helps to Protect Us*—He may be the city policeman, the State police (in rural areas), the professional city fireman, or the volunteer fireman in a small community. If the children have no direct contact with any of these, it might be wise to mention their services but not to attempt any detailed study of their work. Other possible interests might be the hospital and health workers, street cleaners, sanitary inspectors.
4. *One Who Works in Processing Activity*—Study of a bakery, a creamery, a dairy, a meat-processing plant, or some other small local food industry, will help the children to understand how the grocer gets the things he sells to them. If there is a processing plant close to the school which is simple enough to be understood by the children, such a choice might be encouraged.
5. *One Who Helps Us Travel and Carry Goods*—Transportation activities are of great interest to young children and the railroad, the airline, a truck line, a bus line, a streetcar line, or a boat line would help them to realize how their community depends upon transportation for many services.

If another type, not listed here, is significant in a particular group's experience it may be substituted or added. It is not desirable to undertake a detailed study of more than a few types of workers. It is better to have time to make several visits to one, if needed; to browse through many picture books and readers to find materials; to draw pictures, to make large simple models that work, or to carry on a rich variety of experiments with various types of materials, rather than to make a hurried survey of a long list of different types of workers. The purpose of the study is to develop the understanding that a community depends upon its workers for necessities and services, that every worker is important to a community's comfort and welfare, and that ways of working have changed since earlier times because of the use of machines.

Suggested Problems for Discussion and Study

Separate questions are not suggested for each type of work. The following relate to a processing plant and may be used as a guide in developing other types of work as the teacher and children explore together "what we want to know" about each.

1. To whom does this plant belong? Is the owner one person or a company? (The latter may be a new term to the children and its meaning should be developed simply with them.)
 2. How many people work in it? What does each do? Is their work hard to do? Is it pleasant? Is it dangerous?
 3. Where does the plant get its materials? Do people bring their own cream in, or is it collected by the creamery? If the latter, how does the collector find his way? Would a map help him? What would need to be on the map? (The term "raw materials" may be developed with members of the class who are outstandingly mature.)
 4. How is the product of the plant, for example, butter, made? Can we see it being made? Can we make it here in school?
 5. Who buys the butter? Is any of it sold in our neighborhood store? Where is it shipped? ("To other Communities," may be an adequate answer here, unless the names are known to the group.) How is it shipped?
 6. How is the butter kept clean and fresh?
 7. How did people get butter before this plant was built? Was it hard to make it at home? Was any kind of machine used? (For example, a churn is a "machine" in the science sense.)
 8. What other products are made from milk? How are they made?
- Note*—Where the workers travel about the community (the policeman, fireman, mailman, or delivery men) some question as to how they find their way should be raised, and further emphasis given to the value of maps.
9. What precautions are taken so that workers will not be hurt?

Some Appropriate Activities

1. Taking Trips

Any of these types of work will be best studied at first hand, sometimes with several trips to observe, check, and recheck certain aspects of the work, in order to complete the answers to the children's questions. To be successful an excursion must be carefully planned and carried out. (See pages 47-50.) The trip might be traced on the map made in "Getting Acquainted with Our Community," or a new map may be drawn on the floor for this purpose. Eating on the excursion is important. How shall we pack a lunch for a picnic or excursion?

2. Learning More About Machines

The very simplest principles of machines were developed in Grade I in the unit on "How We Go To and From School and What We See on the Way." We learn that a machine needs some power or force to make it go, and that machines make work easier. All things that move need power to make them go. Since almost all the "workers" studied here will be found to be using some kinds of machines, further study of them should be carried on at a slightly more advanced level of understanding. Informal comparisons of the kinds of machines used at the post office, for example, the postmarking machine, and those used at the creamery, may be developed in discussion. Note safety precautions. Some simple experiments may be desirable to help the children realize that machinery must be well cared for, and the amount of work machines do for man. The following experiments will demonstrate the necessity of protecting metal by oil: Put some nails in a glass of water. Dip other nails in lubricating oil, then place them in a glass of water. Watch them for several days. What difference is there? Leave them for a week or two. What happens?

Discuss the various kinds of power used to make machines go. (Review what the children learned in "How We Go To and From School," Grade I.) Let the children make a simple power machine.

To Make a Paddle Boat That Will Go

Cut a piece of wood about 3 by 6 inches. Cut one end to a point. Float this piece of wood on water, and by experiment determine where on its surface to nail a block of wood 2 by 3 inches; this smaller block will represent a cabin. Cut two narrow strips of wood 4 inches long. Nail a piece on each side of the rear of the boat so they protrude (from the straight end) 2 inches and are parallel. Put a rubber band around the protruding sticks of wood. Cut a small piece of wood for a paddle. Put the paddle inside the rubber band. Wind or turn the paddle back, keep turning it until the rubber band is tight. Put the boat into the water, let go of the paddle and the boat should go. It might be necessary for the child to experiment further in order to notch the protruding sticks and paddle to hold the rubber band in place. The whole project should be worked out with the children—questions, experimentation, solving problems, evaluation of suggestions. Of course the wood and rubber band must be available to help children in their thinking and problem-solving. Can they think through what

power is used to make the boat go? Why is the boat pointed?

To Experiment with Air Machines

If an airport is to be visited, let the children make paper gliders, using a folded paper sail plane as a starter. They can experiment with wings, tail, and other surfaces to learn how control of flight is secured. They can cut ailerons in the wings and fold them and the tail to make the plane bank and turn and glide in different directions. By putting a paper clip on the nose of the plane, they will discover that it will rise less rapidly and maintain a more constant direction. Let them observe leaves falling from trees much as the glider moves, and study the flight of seeds, such as dandelion, milkweed, cattail, cotton, and maple seeds. Observe also the gliding flight of different birds. What makes them go? What makes *you* go?

Make a parachute by tying the four corners of a handkerchief with string and fastening it to a weight. Throw the weight with its parachute into air and watch it descend. Now untie the parachute and throw the weight alone into the air. Let the pupils discover how the parachute slowed down the descent of the weight and compare this with the descent of certain seeds. Make kites and fly them to see that they must take off into the wind. At the airport, notice how airplanes, too, take off into the wind, changing runways as the wind shifts.

To Compare Simple and Complex Machines

If a creamery is to be visited let the children churn butter by shaking sour or sweet cream in a glass jar. Make a wooden paddle or dasher and use this in the glass jar. Try to find someone to show them how it is done with a hand churn. Then compare the time and effort required, and the amount produced, with that observed at the creamery. Help them to realize the changes which have taken place in such common practices through the use of electric or gasoline-powered machinery. (Bread-making and ice cream-making are other processes which can be observed in the same way.)

The differences in time and comfort in various kinds of travel may also be observed and compared, especially in a community where horse-drawn vehicles are used. Perhaps the local fire company still has an old-time, hand-powered engine which may be compared with its modern motorized equipment. Many comparisons between horse-powered and machine-powered implements can be found in any farming community once the children begin to be observant of varying modes of transportation.

Additional kinds of appropriate activities, especially those in reading and in making handcraft articles of various kinds may be developed naturally out of the various excursions and discussions included in this unit.

Experiment making a many-cupped (more than four) tin pinwheel that will turn freely when fastened to stick or flat piece of wood. Hold it vertically, try it in the wind or under running water from a faucet; hold it horizontally against a horizontal stream of water. This illustrates simply the power source of windmill, water wheel, and turbine. What causes it to turn? How can this be made to work for us?

3. *Dramatic Play.*

Plan, build, furnish, and equip a store (use discarded materials, clay, paper, wood) so that children may use scales, containers, money. Let them dramatize the work of the people in this store. This can be done for any type of workers chosen.

ROADS OUT OF OUR COMMUNITY AND WHAT WE SEE THERE

This unit's purpose is to expand the child's sense of community to a broader understanding of the fact that his own community has definite lanes of connection with other communities—its roads. In some schools this could also include water traffic or air traffic. Through the activities of this unit the pupil will begin to be aware that communities are interdependent in many of the same ways in which people within a community depend upon each other, and that roads are built to make travel and communication easier from one community to another.

It is intended, also, to help him become more observant of his environment—of the workers along the roads, of the natural surroundings, and of the changes which man has made in them (such as bridges, cuts, and fills) in order to make the roads easier to travel.

Points for Emphasis

The problems suggested for discussion and study will offer a variety of emphases which may be developed through this unit:

Roads have been built to help the people in a community have more comforts and services and greater ease and speed in securing them.

Each community, in addition to receiving benefits, serves others through its roads.

Road building is difficult and expensive, especially where the land is swampy, hilly, and crossed by streams or other bodies of water; it takes a great deal of care to keep roads in good condition and road workers are important to a community.

Weather affects the condition of roads; drainage ditches, snow fences, and other safeguards are used.

When a new road is laid out it is very carefully planned.

Through comparisons of the roads of the past and present, children may gain a sense of the changes which are taking place in our lives largely because machines are becoming more and more essential to our living. Each step in progress is a forward one but not a final one—history is still being made and unfolded in our own times.

Beginning learnings in geography may be developed; for example, that the earth's surface consists of level land, hills, valleys, mountains, brooks, rivers, ponds, swamps, lakes. Children can point out most of these in any Pennsylvania community, and can learn to know this simple geographic vocabulary. They can see how roads often follow valleys along streams, how swamp lands are crossed by fills, how roads are built through hills or mountains. They may learn also to use and make road maps in a rudimentary way. Finding pictures for a scrapbook of land and water forms will help to fix these geographic concepts.

Certain aspects of conservation may also be understood by second-graders, such as: Man adapts himself to his natural environment but he also makes changes in it. Sometimes these changes are for the better, as when roads span streams and cut through hills. But they may also be harmful or deface natural beauty, as when cuts are left bare and the soil washes away from the tree roots, or when weeds are allowed to grow along the roads next to farmers' fields, or when various signs cut off or detract from the view. Children should be encouraged to observe the beautiful spots along the near-by roads and to discuss how other spots might be made more beautiful.

Perhaps they could participate in developing roadside beauty in their neighborhood, as the "Dogwood Trail" is being developed by the school children and civic clubs from Valley Forge to Washington's Crossing.

Suggested Problems for Discussion and Study

1. What roads go out of our community? Where does each one go? (The nearest town is an adequate answer.)
2. To what places have we followed these roads with our families? What are some of the interesting things we saw? What beautiful things did we see?
3. What kinds of work did we see being done along the way?
4. Were any men working on the roads? What were they doing? What do they have to do in winter? In other seasons? Is this work important? Why?
5. How are the roads built so that they make driving easier? How are they made level? (Cuts and fills?) How do they cross streams? (Bridges, possibly a ferry?) Why are wide roads helpful?
6. How can drivers keep safe on the road? What signs help them? List them. (Emphasize physical well-being and courtesy of driver as well as obeying rules.)
7. What things along the road show that the road workers were thinking about weather and seasons when they built the road?
8. What do the trucks which we see on these roads carry — going out of our community? Coming into our community?
9. How are the roads different now from when Father was little? Can Grandfather tell us what the roads were like even longer ago? Why have they changed so much?

Some Appropriate Activities

1. Using a Map

Encourage the children to bring a road map. Show them where our community is—let's make a big X there. Trace the roads out of our community with our fingers—let's mark them in red so we can find them easily. Can we follow the road to the nearest town? Shall we mark it red that far? Has anyone been farther than that town? John has been to _____[town]_____here is _____[town]_____ John, will you mark the road that far? The teacher will do the "finding" but she should let the children trace the routes, so that they will get the idea of

maps as representing real and familiar roads. This tracing should extend only as far as it is an outgrowth of the children's own travel experiences within a distance of twenty-five miles or so. We'll put the map up here on the bulletin board so that we can look at all these roads we know. Usually the children will study the map independently and try to trace roads to other places they know.

2. *Making a Frieze Map*

We might make a simple map showing, on a long strip of wrapping paper placed on the floor, classroom, or corridor, the cardinal directions and the starting point or where we are now, how the road goes between our community and nearest town—over a low hill, around a curve, down a long hill, over a fill, across a bridge, up a high hill through a cut, and so on. Make the different highway signs you have noticed.

3. *Making a Sand-Table Map*

First we will set the sand table parallel with the road, so that our map has true directions. Show where the sun rises in relation to the sand table, where it sets. Where shall we mark our community? How large shall we make our map? If we put our nearest neighbor-town on one edge, and our own community at another edge, we shall have how much space to show how many miles? Can we mark it in spaces about the same size to show us where each mile is? How far is it to the creek? How far to the big hill? These "scale" measurements can be approximate but they will help the children to think of maps as accurate representations — an important basic understanding in using or making a map.

4. *Taking a Trip*

We might go to look at a near-by cut. Why was it made? What can we see on the sides of the cut? Does it show different layers of soil? How can we tell? Is the soil being washed away by the rains? How could it be kept from washing? Where have we seen that done? Are there different layers of rock? Are they all alike? How are the layers arranged? What did the workers do with the soil and rock taken from the hill?

5. *Making a Scrapbook*

Experimenting to find out how to make a durable cover for our stories, learning a little about how books are made. Have the scrapbooks really tell a story as it develops.

HOW OUR FARM NEIGHBORS HELP OTHERS

For the farm child this is a kind of summary of familiar experiences and ideas, with the broadened understanding of how others depend upon him and his family and their work. For the village child it is a lesson in neighborliness, a new understanding of the importance of his farm neighbors, and a new interest in the things they do. For the city child it may be an introduction to an almost unknown world quite different from his own. Before beginning the unit the teacher will have to explore the children's experiences with farms to know how to approach it, and to what degree to develop it.

Points for Special Emphasis

In any type of community children should be helped to realize certain truths about the work of the farm and its value in our nation and in the world. Some of these truths are:

1. We all depend upon the farmer for most of our food. This is true, especially for those of us who live in cities and towns.
2. All over the world farming is hard work, requiring careful planning and long hours of work, and subject to many hazards of weather and pests.
3. Modern machines and good roads have made farm living and farm work easier, more productive, and more pleasant than formerly, and have reduced the hazards to some extent.
4. There are many pleasant things about farm life. Also influence of radio, automobile, etc., on farm life.
5. The farmer's work varies from season to season.
6. Animals are important on a farm and they are given good care in order that they will be healthy and productive. How are they handled to prevent accidents?
7. The whole family works together and plays together on the farm. Farmers often help each other with their harvesting.
8. Farmers must use the soil wisely so that it will continue to produce good crops.
9. Farmers must enrich the soil so that the crops are rich in nutriment values. Plants take food away from the soil—our farmers must know how to put it back.

Suggested Problems for Discussion and Study

These questions and topics were prepared for a group of farm children. Those raised by town and city children would be somewhat different.

I. INTRODUCTORY QUESTIONS TO AWAKEN THE CHILDREN TO AN AWARENESS OF THE ROLE OF FARMS IN SUPPLYING THE ESSENTIAL FOOD NEEDS OF OTHER PEOPLE

1. What is raised on our farms? Plants, animals?
2. Do we use all of each product ourselves?
3. What do we do with the extra supply? Why do we sell what we have grown?
4. What people use our extra products?
5. Why do we raise these particular crops? (Or produce milk?)

II. TOPICS FOR DISCUSSION AND STUDY

1. Fall on the farm—kinds of work done then, the kinds of work our fathers do, what our mothers do, how we can help, how we get ready for winter, how the plants and animals get ready.
2. How animals help on our farm, how we care for the animals, the animal products we sell.
3. How machines help our mothers and fathers, how the machines are cared for.
4. How nature helps our crops, how we can help nature, how and why our fathers take care of the soil to keep it fertile and to enrich it further.
5. How do plants get food from the soil? Animals and people get food from both plants and animals. Plants, animals and people—all help each other to live well.
6. Troubles our fathers have in raising crops—too little or too much rain, too cold or too hot weather, too early or too late frosts, insects and worms, blights and plant diseases, weeds in the field, weed seed in the seed for planting. How our fathers try to overcome these difficulties.
7. What work is done in the spring, in the summer? Which season's work is hardest?
8. How we can help at planting and harvesting time, how our fathers exchange work with other farmers.
9. How our crops go to market, where they are sent, how long it takes to get them there, what becomes of wheat grown on our farm.
10. What workers buy our products, what they produce which we use.

11. What accidents have happened on farms? How can they be prevented?
12. How we have fun on our farms.
13. What are the crops in this county or town? When are their seasons?

Some Appropriate Activities

1. *Collecting Pictures of Farms and Farm Animals and Machines*

Many very attractive and informative pictures can be found in magazines, and children in any type of community will enjoy collecting them and making a large class scrapbook, "Our Farm Book." For urban children, unfamiliar with farm life and animals, this would be an especially valuable activity, but would not take the place of a visit to a near-by farm. For farm children it should be an optional one. They might use it for organizing and summarizing their ideas.

Reading and composition activities could be centered about the pictures, and the "Farm Book" could become a collection of children's stories as well as of pictures.

2. *Making a Map*

Drawing a big "airplane map" of a farm on the schoolroom floor would help to fix some geography learnings and space relationships developed in this unit, and would be an additional approach to map-making. Making a model of a farm, as is often done, is very time-consuming and is often too incomplete and unreal to help in developing the concept of farm life at any grade level. A sand-table farm, another common activity, may be made by city children to help them get a three-dimensional picture of a farm, but it is not valuable for children who know a farm at first hand. (This is also true when city children are encouraged to build a model of their street.)

3. *Making a Frieze*

A large frieze, cooperatively constructed, showing the different kinds of work in each season on the farm would help to fix the concept that farm work is closely related to weather and climate. Much the same educational procedures should be followed in planning and executing this project as if the class were writing cooperatively a composition on the farm.

4. *Enjoying Farm Animals and Their Babies*

Charming pictures of young farm animals are often available, and many activities might be de-

veloped around them. A frieze or individual pictures of each mother and her babies could be made, stories could be composed, songs and rhythms could be centered around the animals, large, easily-made paper-bag puppets could be made to dramatize stories or songs. Best of all, a trip to a farm at "borning time" (spring of the year) will loosen the tongue of the most timid or shy child.

5. *Experimenting with Seeds and Plants*

- a. Plant some farm seeds (corn, wheat, oats, clover, alfalfa, soy beans, and so on) in good soil in tiny pots or in tin cans. (The latter are less satisfactory because the soil does not get enough air.) Watch to see which come up soonest, which grow most rapidly.
- b. Put some of the pots on a window ledge and see how the plants grow towards the sun.
- c. Put some of the pots in a closet and see how the plants turn yellow, then put them back in the sun and see what happens.
- d. If you have a pet cat grow oats, so he can have his "salad"—green foods are very valuable.
- e. Put some red coloring in a glass of water. Pull up one of your little plants, wash its roots, and put it in the glass in a shaded place. What happens to the leaves? Place celery in colored water.
- f. Put pins into half a sweet potato and put it in a glass of water so that the potato touches the water. Keep the glass full and watch what happens in a week or two. Where does this plant get its food?
- g. Plant some morning glory seeds in a long narrow cheese box and place it on the window sill. When the plants' tendrils form, fasten some strings to the box so the vines can climb. How long does it take before some flower buds form?
- h. See experiment on watching seeds grow—Grade I: "How We Go To and From School and What We See on the Way."

6. *Raising Baby Chicks*

In a city school a hen may be secured from a farm and a setting of eggs placed under her. Each day may be marked off on the calendar to see how long it takes for the eggs to hatch. The children will need to learn from the farmer how to care for the hen, and how to feed the chicks correctly. A trip to a commercial hatchery would be a rich experience. The children would also learn that chicks can be hatched in machines called "incubators."

7. *Visiting a Farm*

For children unfamiliar with a farm this visit is very desirable. A diversified farm should be chosen and the trip timed so that field work, either preparing the soil or planting crops, or harvesting, may be observed, as well as the animals, especially baby animals. A full day should be allowed for the trip so that the children will have ample time to enjoy the animals, to watch the various kinds of work being done, and to have opportunity to ask as many questions as they wish. A picnic lunch of foods produced on local farms could be planned, and would offer opportunity for further learnings related to the farmer's function in supplying non-farm families with food. A discussion of non-farm families' contribution to farm-families should also be considered.

B. *Drying, Canning, or Preserving*

Fruits or vegetables may be dried, canned, or preserved and used at a school party or luncheon.

HOLIDAYS AND SPECIAL DAYS

As in first grade, the other holidays¹ may be observed in their succession, as usual, but Valentine's Day is chosen for special emphasis in the second grade. It may be used as an approach to, or an outgrowth of, the study of the mailman and his work.

Points for Special Emphasis

The legend is that St. Valentine was a kindly man who sent many greetings and messages to his friends. We honor him by sending messages on pretty cards to our friends and to our family. It is one of our favorite holidays, and we enjoy making and buying valentines which will make our friends happy. The emphasis should be on this day as one upon which we express our love and friendship.

A valentine is like a letter and often it is sent through a post office. When a letter goes through the mail it must be addressed clearly and correctly so that it will reach the right person. If we send a valentine package it must be strongly wrapped and carefully addressed.

Postal workers have to be very careful to read the addresses on letters and packages correctly and to get them delivered quickly to the right people. They must be careful, too, not to let the mail be lost or harmed in any way. They are trained for their work and are paid by the United States Government.

¹ See Holiday Bibliography, pages 156-157, and Appendix.

Mail may travel in many ways—by automobile, by train, by boat, by airplane. Which of these ways is used in our community? Which way is quickest?

Problems for Discussion and Study

1. How do we get our mail?
2. How does it get to the post office?
3. How does a letter find its way to the right person?
4. How are packages sent?
5. What do we mean by a legend?
6. Why is making things more fun than buying them, and why does Mother like best a valentine we make ourselves?
7. What are some other holidays when we show our friendship and love for people?

Some Appropriate Activities

Instead of a classroom "Valentine Box," a post office may be constructed and used for collecting and distributing the valentines for the class. The construction should be simple, but the "mail" should be handled with accuracy and with responsibility for its care. If possible, all the children should have a turn at selling "stamps," collecting mail from the outlying "mailboxes," sorting and putting it into the correct "postbox"—preferably each child should have a box of his own—and for helping to distribute and deliver it on the final day.

Language Arts activities, as well as the usual art and music activities, should be an important part of the project. Arithmetic may be developed by using toy money for buying the stamps, with as much making of change as the children's skill allows.

Sometimes the second grade acts as a postal service for the first grade also, and helps the younger children address their valentines, buy their stamps and mail the "letters." Then it distributes them on Valentine's Day for the lower class as well as for its own.

A visit to the post office, if feasible, or a talk with the mailman, gives the children first-hand knowledge of the work which they are imitating in their classroom post office.

Make valentines—original verses, messages, art expressions, etc.

Plan a party—appropriate refreshments, games, and fun for all. A special effort should be made by the teacher to see that this Valentine Party should not be one which features one or two children and hurts the feelings of others. When any children fail to receive their share of attention, they should not be hurt and humiliated again by the way in which the valentines are handled. For some children to receive a deluge of cards is as undesirable as for others to receive only the "duty" one which the teacher contributes. A real effort should go into the plans which the children make to have this a party for all, with all sharing the fun of preparation as well as the fun of participation.

Other special days that are particularly appropriate at this age level are:

- Fall Arbor and Bird Day (October)
- Good Citizens Week (November)
- Thanksgiving
- Christmas
- Father and Son Week (February)
- Be Kind to Animals Week (April)
- Spring Arbor and Bird Day (April)
- Mother's Day (May)
- Father's Day (June)

NOTES FOR BULLETIN 233-C

Grade III

INTRODUCTION

THE CHILD while in second grade becomes aware of the place where he lives as “a community,” and learns that the people within that community depend upon each other for many things. In third grade we wish to broaden this understanding into a realization that his community is not an isolated, self-contained unit, but that it too depends upon other communities—and they upon it—for a great share of its necessities and services.

The series of units presented for third grade helps the child to see how ways of living in his community are affected by its natural environment—by the weather and seasons, and by its water supply—how these ways of living are influenced by the community’s work-relations with other communities, and by its communication facilities. He expands his conception of the influence of the past upon the present by a study of the earliest inhabitants of his community and country — the Indians.

As in former grades no required sequence of teaching the units is implied by the order in which they are presented. It is desirable that the child complete the third grade with an enlarged concept of the meaning of “a community,” a well-defined understanding that communities are influenced by their natural surroundings, and that they are interdependent with other communities.

Seasonal interests and special group interests may also be centers through which children may learn to understand that human beings must adapt themselves to weather and climate, that things about us are constantly changing, that the new develops from the old, and that every person depends upon many others for the necessities and comforts of daily living. Many more of the other basic social understandings are listed, under “Over-all Outcomes of the Social Living Program” on pages 127-130, and in the charts on pages 139-150. They should be kept at the level appropriate to primary children’s capacities.

Living together is a large part of what we mean by *Social Living*. Under the guidance of the alert teacher, the whole environment offers possible resources for social living.

THE EVERYDAY THINGS ABOUT US

This unit appears to be a repetition of the unit listed under First Grade, “How We Go to and from School and What We See.” The general content of the units is very similar, but at third-grade level the children are ready for a broader and more detailed study of the environment surrounding their homes and the school. Through this type of repeated exploration of the environment, the child’s learnings

grow in a kind of spiral, from grade to grade, broadening and rising to a higher level.

This is basically a science unit, centered about the problem of how living things change with the seasons. While it is set up as the first unit of the year, and does lend itself very well to the “getting acquainted” period which must always occur when a new teacher-pupil situation begins, it cannot be

completed in the fall. It could be begun in the first weeks of school and carried on until the children have observed the many changes which have taken place outdoors since school closed in June, and have considered the preparations which both nature and human beings have made for the winter. Then it could be suspended until significant new changes have taken place in the landscape (the falling of the leaves, perhaps) and then picked up again for a few days. Later, when the first snow falls, it might be picked up for a few more days. After Christmas when the real winter cold sets in, it might be brought up again for a short time. When signs of spring begin to be apparent, it may be brought in for a week or two, then suspended until the full springtime flood of plants, flowers, birds, and new leaves is at its height.

This does not mean that a current unit must be dropped each time these everyday things are worked upon, but that part of the daily social-living period could be devoted to them, or some other period during the day could be used, for example, a part of the Language Arts period. The daily weather record, begun in first grade and extended into second grade, could be renewed in September and carried on throughout the year, making a kind of thread of awareness of seasonal change to which these several "high spots" would be connected.

Probably the unit "How Man Uses Water and How It Affects Him" will be an expansion of this unit sometime during this year.

Points for Special Emphasis

Gradually, during the year's observing of the changes which take place along the way to school, certain understandings are built up:

1. There are four seasons in the year; that weather and seasons affect people's ways of living and of doing things.
2. People are constantly trying to find better ways of keeping warm and dry, of protecting themselves from accidents and injury in storms or weather.
3. The buildings seen along the way are built in different ways to withstand weather.
4. Animals and plants, as well as people, use different ways of protecting themselves against weather and seasons.
5. There are many interesting things to see and hear and smell along the way to school if we watch for them, and we can learn a great deal by observing one thing (a tree, perhaps) reg-

ularly and carefully over a period of time; children play different games at different seasons; the sunlight and shadows on walls and pavements look different at different hours and seasons.

Suggested Problems for Discussion and Study

1. How have things changed along the way to school since school closed in June? (This could be the approach to the unit, and could be used as a stimulation for discussion and observation in those first days of school when children are becoming adjusted to a new teacher and readjusted to the school situation.)
2. How is the length of the day changing? The temperature? (From the answer, "It is getting cooler from day to day," the idea of measuring "how much cooler" could be used to introduce the use of the thermometer and a daily temperature record. It will be found, of course, that the change is erratic, but that a steady decrease in temperature is taking place over a period of several weeks.)
3. Where does the sun set now? Is this spot changing, too? (Encourage the children to watch the sunset from week to week in relation to a certain tree or building, and observe what change is taking place in time and location. The directions "east" and "west" are probably familiar to the children by now, the direction "south" may be developed as the sunset moves southward during the fall weeks.)
4. Where do we see the noon sun in the sky in the fall? (The gradual lowering southward of the sun's position at noon may be observed by watching it from a selected position inside a door or window, from week to week.)
5. How are the plants preparing for winter? (Some drop their leaves, many have produced seeds, others have stored food in bulbs, the roots of many live underground through the winter—the word "dormant" may be developed here.)
6. How are the animals preparing for winter?
7. How are human beings preparing for winter?
8. How does the work which people do change from season to season? or does it for all?
9. What are some of the beautiful things we see along the way to school during the fall months? the winter? the spring?

Some Appropriate Activities

1. Keeping a daily weather record—related to weather and water (See Grades I and II.)

In third grade we can begin to learn how to tell from what direction the wind is blowing. We can use the flag in the school yard as our weather vane. We can experiment to find out how to make weather vanes and wind socks that tell us wind directions. Each day we can put an E, W, S, or N in the day's record to show the direction of the wind.

We can also put in a number to show the outdoor temperature at nine o'clock.

We may work out some new symbols to show how the sky looks, or to indicate rain or snow. We may make special marks for the first frost, the first snowfall, or other things we wish to record.

Perhaps, instead of the calendar form, we may make a chart with a row of numbers at the left side for the days of the month, and columns for the sky, the "precipitation" (we are proud to learn such a big word!), the wind, and the temperature. We will keep our charts from month to month and see how the weather changes from fall to winter. We may find that our spring charts are much like our fall charts except that it is growing gradually warmer instead of cooler.

We may try to think of some interesting ways to record how the sun's position changes from fall to winter, and in spring.

2. Finding How Plants Prepare for Winter

Collecting Seeds: Find as many different kinds of seeds as possible. How are different ones fitted to travel? Make some large cards for the different ways of travel and fasten the right seeds to them.

Finding Food Plants: List all the plants which you eat. Which parts do you eat? Cut open a carrot and see the stored food in it. Take an onion apart. The pieces that come off are really leaves. They are thick because of stored food. Dig up grass and find the white stems. Food is stored in them; mice often eat it in winter.

3. Finding Out How Animals Prepare for Winter

Name all the wild animals which live in your community. Try to find out how each one prepares for winter. Make lists of those which do the same thing, for example "Animals Which Sleep."

See how your pets are preparing for winter. Do they need to do this?

See how the farm animals are preparing for winter? Do they need to do this?

How do the birds prepare for winter? Make a list of all those which stay in your community. Watch them through the winter to see how they find food, how they keep warm. Perhaps, you can build a feeding station for them when the snow covers their food.

Try to find out how insects prepare for winter. See if you can find some cocoons, and keep them until spring to watch them open. Perhaps you can find some caterpillars and put them in a large glass jar, with sand, some green leaves, and a small jar of water to keep the sand moist. If you feed them the same leaves you found them on, they may make cocoons in the jar.

See how snails, frogs, salamanders, toads, and turtles prepare for winter. Perhaps you can make a "terrarium" out of a clean battery jar with various sizes of stones, some earth and some moss in the bottom. In it place a toad, a snail, a salamander, and a small turtle. Keep it a little moist and keep a screen over the top. Feed them flies or tiny bits of meat. Watch to see what each animal does when the weather gets colder outside. See what happens when spring comes.

In spring, see how many kinds of baby animals you can see at home and on the way to school. Which came from eggs? From cocoons? Which are nursed by their mothers? Which find food for themselves? How do their parents take care of them?

4. How Do Families Prepare for Winter?

Preparing Food: Find as many ways as you can in which people store food for winter. Which does your mother do? How can you help her? In spring, see how the garden is prepared for planting. What seeds are planted? Are any bulbs planted? How are potatoes planted? Grow some potato plants in school to see what happens.

Preparing the House: See what is done to get your home ready for winter, watch other houses along the way to school. What does Father do? What does Mother do? Can we help?

Why is the coal man busy in the fall? Are any other workers especially busy?

Preparing Our Clothing: Help your mother get your winter clothes ready. What different kinds do you need for different kinds of weather?

5. Related to Safety

Think of ways in which you can keep safe as you walk or ride to school.

Make some rules which all of you need to remember.

Think of ways in which you can keep safe when it is icy, when you are playing winter games or coasting or skiing.

What should you do before going skating on a creek or pond? In the spring, how can you keep from getting ivy poisoning? Make some posters to remind all of you how to play safely in winter.

6. *How Can You Help Yourself Keep Well Throughout the Winter?*

WHERE THE PEOPLE IN OUR COMMUNITY WORK AND WHAT THEY DO

This unit is a broader version of the second-grade unit, "Workers in Our Community." It is designed to make the children aware of the fact that their community is interdependent with other communities, through the workers who live in the community and work elsewhere, or vice versa. It could well be begun by finding from the class group where their fathers work and what they do, and then locating others who work in our own community or in nearby communities, at various types of work which supply necessities and services to many communities.

Points for Emphasis

This need not be an exhaustive unit. Its purposes can be accomplished largely through discussion and through interviews with various workers. A few basic understandings should be stressed:

1. There are many kinds of work which must be done in order to supply communities with food, clothing, shelter, means of communication, and transportation, and with services of various kinds.
2. Few communities produce all the necessities and services which they need; they must depend upon other communities for them.
3. Some communities need many workers and often these live in other communities.
4. Workers who produce goods often depend upon other workers to transport the goods to markets.
5. Many kinds of machines are used by these workers.
6. Some people work independently; others work for one employer; some work for large companies; some for the government.

7. The buildings in which they work are different because the work done in them is different.
8. There are hard things about every kind of work, but each kind also has some advantages.
9. All these workers are important to us because we need what they produce or what they transport. We are important to them because we buy their products and our parents may make or transport or sell the things the workers need.
10. What happens to a community when natural resources become exhausted? How can this be prevented?

Suggested Problems for Discussion and Study

1. How many of our fathers or other members of our families work here in our own community? What things do they do?
2. How many work in other communities? What do they do?
3. Are there any workers in our community who live in other communities?
4. How do all those workers travel from their homes to their work?
5. Where are the products they produce taken to market? How are they taken?
6. Can we buy all the things we need or want in our own community? Where do we go to get them? Do any of these workers we know produce the things we buy elsewhere?
7. Can we visit some of the places where our fathers or family members work—in our own community? in another community? What shall we want to find out?

Some Appropriate Activities

The activities carried on in this unit will vary with the community and with the work done by its people. Several general types are suggested here; other more specific ones may be worked out with the children. If a community centers about one industry (a paper mill, for example) it might be desirable to concentrate a majority of the activities of the unit around that particular type of work.

1. *Visiting a Small Factory or Other Production Plant*

A small printing plant, if available, might be desirable because its organization is usually rather simple and because it would lead into the unit on communication and on keeping records. Observe what the workers do, how each is responsible for

certain tasks, and whether his work seems hard or easy. Examine the building to see how it is adapted to its particular purposes; see what safety precautions are provided. Find out just what is produced, how the raw materials are secured, how the product is taken to market, and where it is marketed.

2. *Interviewing Workers*

Each child may talk to his father and to neighbors about the work they do, asking about some of the points suggested for emphasis in this unit. In group discussions their findings may be pooled so that some general understandings may be formulated.

3. *Finding What Workers Help Us*

This might be organized under groupings, such as "Workers Who Produce Our Food," "Workers Who Make Clothing for Us," "Workers Who Help Us Travel" or other headings.

4. *Learning More About Machines*

Since so many of these workers work with machines, the children will be interested in some simple experiments with machines using various kinds of forces or power.

- a. Make pinwheels, toy windmills, gliders, or airplanes. Make them go with an electric fan or the wind.
- b. Bring various wheeled toys to school and examine the axles. Look for axles that turn. The "wheel" makes it easier to do all kinds of work.
- c. Put two rollers under a box. Push the box. Notice that the rollers keep rolling out from under the box. The axle is better.
- d. Build a toy wagon or a scoot-mobile, using discarded roller-skate wheels for the wheels.
- e. Observe a clothesline operated by a pulley. Try to move things horizontally and vertically using a pulley.
- f. Watch a teeter-totter; it is a lever.
- g. Make different toys with an erector set, using levers and wheels.
- h. Try to move a stone or any object, using a stick or bar as a simple lever.

5. *Experimenting with Magnets*

- a. Take a horseshoe magnet and try to pick up nails with it. Will it pick up tacks? needles? a marble? a pencil? What kind of things does it pick up? Experimentation will show that only those of steel or iron respond to the power in the magnet.

- b. Place some steel shots on the table and lay a piece of glass over them. Place the magnet on the glass and the shots will cling to the glass under the magnet.
- c. Place a shot on each end of the magnet, keep adding one shot at a time to see how many will hang on the magnet and how far up the bars they will hold.
- d. See if several will form a string from the magnet. Why does this happen? How many will hang at one time from this magnet? Experiment using a large magnet. Any difference in the number of shots in a string?

6. *Working with Maps*

Wall, floor, or table projects which grow as the unit expands. Watch correctness of directions and the tie-ups with actual land and water formations, as the river that runs through the town, the mountains to be seen from the windows, etc.

HOW PEOPLE LEARN WHAT OTHER PEOPLE ARE DOING AND THINKING

The large purpose of this unit is to bring together the children's experiences and observations of the ways in which people transmit ideas and news, and to broaden and organize their conception of the importance of communication in our daily life. The words "communicate" and "communication" may be taught and used, and will be a source of pride to third-graders who are usually eager to learn "big words."

Points for Emphasis

1. We need to know what other people are thinking and doing because we depend upon many people for our necessities and services, and for much of our knowledge in science, industry, banking.
2. Modern means of communication make the distance seem shorter from one community to another.
3. Much time is saved by modern means of communication.
4. A great many workers are necessary in the field of communication. Our community depends upon them for many services.

5. Ways of communicating have changed a great deal since early times in our community.
6. Modern materials, tools, and means of recording and printing have made it possible for more people to know each other.

Problems for Discussion and Study

1. If you were in another room and wanted to ask someone here a question what would you do? What would you do if you were visiting in another state? If you were at a neighbor's and wanted to ask your mother a question what would you do? (From the above questions the word "communicate" can be developed and its meaning made clear.)
2. How many ways can you think of by which people can communicate with each other?
3. How do you think people communicated with one another in our community before there were trains, airplanes, telephones or radio? (Some children may suggest really primitive ways, such as signal fires, drums, marks in the sand, rock piles, drawings on cliffs, or others.) If so, the idea of "long, long ago" as well as "earlier times in our own community" may be developed as a part of the "past and present" understanding which is basic to later history learnings.
4. How does a baby communicate what he wants or thinks to other people before he learns to talk?
5. What workers in our own community help us to communicate? (This discussion will emphasize the *production* angle in communication. Communication, too, requires good manners. How to order groceries over the phone.)
6. Try to think of people in other communities whose work in communication we use? (Radio is, of course, the best example. Weekly News Sheets are also commonly used in our schools. This discussion emphasizes the consumption angle, for us; production is done by others far away.)
7. Why is communication from one community to another so important? (The interdependence stressed in the unit on "Workers" points this up clearly.)
8. How people record their ideas. Where we go if we wish to find out what someone else has thought or discovered—records, books, maps, and other means of communication.

Some Appropriate Activities

1. Taking Excursions

Depending upon the size and type of community, many kinds of communication are already familiar to the children. Those less familiar, yet simple to understand, should be selected if there is a variety among which to choose for excursions. If the children have not visited the post office, in second grade, it should probably be included. If there is a local newspaper, telephone office, radio station, or telegraph station, it too will be interesting.

2. Comparing the Speed of Different Kinds of Communication

Children are aware that communication is almost instantaneous by radio. We might ask, what would be the next quickest way to get a message from Philadelphia (or any other broadcasting center in the community)? Which next? Exact comparisons of time are not needed, but a general understanding of which types of communication are quick, and which slow, is desirable. A simple bar graph showing comparative speeds might be a tangible record of this activity.

3. Making a Frieze

As the children talk about changes in communication and recording of ideas from earlier time in our community, the idea of making a frieze showing the various steps might be developed. The progression need not be accurate in all details at this level, but should be reasonably so. If the primitive types of communication and recording have been discussed, the frieze might begin with them.

4. Using the Telephone

In connection with this unit children might be taught the correct way in which to use the telephone and the telephone books. Toy telephones may be used first to develop skill and courtesy in its use. Later each child should actually look up a telephone number, use the telephone to get the party and talk with him.

5. Making a "Telephone"

This can be done in a simple way with two tin cans and waxed string. Discuss with the children the problems (one at a time) of talking and listening over a wire or string, how to solve problems. Have children handle the materials when showing how. They may suggest: Removing the covers of two tin cans (preferably the same size), puncturing a small hole in the bottom of each. Cutting a string about 10 feet long, or as long as needed, waxing it

with paraffin (or using any waxed string), knotting the one end of the string, pulling it through the hole in the bottom of one of the cans, pulling the other end of the string through the hole in the bottom of the other can, knotting it to hold it in place. This connects the cans. Let two children experiment with help from the class until they discover that each child should hold a can and pull the string taut. Then they experiment talking to each other. They will find that one child should speak clearly, softly, and slowly into the one can, while the other child receives the message by holding the other can to his ear. Children should try sending and receiving messages at different distances. Consideration should be given to such questions as: Why can messages be sent over this simple instrument? Does it make any difference how long the string is? Why is the string waxed? Discover as many answers as possible through experimentation.

6. *Making and Reading Signs*

Directions, rules of the road, for games as "Hare and the Hounds."

7. *Making Written Symbols*

Indians used to record the history of the tribe and leave messages on the trail for followers.

8. *Keeping a Log of the Events During a Week or a Month*

Make the record on sheets of paper or on a scroll of paper.

9. *Experimenting to Find Out How to Cut One's Initials on a Discarded Eraser or Piece of Potato or Wood or Linoleum in Order to Print One's Name or Monogram*

Children must be given time to discover for themselves that the letters will need to be cut upside down, and to find a way to do this. They may learn from their classmates. An inkpad and pieces of newspaper will be needed.

10. *Reading About How Messages Were Sent Long Ago*

Beacon lights, smoke signals, picture writing (carved on rocks, printed on clay, on papyrus, on skins of animals), blazes on trees, pointing arrows, knotted cords, notched sticks, flags, light signals, drums, bells, songs, etc.

11. *Reading or Interviewing People About How Messages are Sent Now*

Trainmen's lanterns, flash signals, colored traffic signals, carrier pigeons, messengers, all sorts of

printed matter, telegraph, radio, telephone, bugle calls, fire whistles, Braille, television, etc.

12. *Learning About Sound*

Listening to a tuning fork, feeling a tuning fork, making echoes, making a musical instrument from water in bottles or waterglasses, etc.

HOW MAN USES WATER AND HOW IT AFFECTS HIM

Many of the concepts which will be developed through a study of this unit are closely related to the activities that have been carried on in connection with the weather record during the first two grades and this year. They will also have been talked about in the unit "On the Way to School" and several others. We have, no doubt, recorded the first snowfall and perhaps a hailstorm. It may be that curiosity has led us to ask, "How does water get out of the air?" or "What happens to the water that falls on the earth?" Surely, it will not be hard to find a way to introduce this unit. Of course, we'll want to read about water and its effect on man, but let's not lean too heavily upon reading material. Read over the activities in this outline. Whenever possible, use an activity or an experiment to answer a question.

Points for Emphasis

Water falls from the sky. It gets into the air from the earth by evaporation. When air is cooled, water comes out of the air in the form of rain, snow, sleet, or hail. Water sinks into the earth or runs off into streams, lakes, and oceans. Little trickles of water join to form small streams. These in turn join to form larger and larger streams. The streams finally reach the ocean.

Plants and animals cannot live without water. Plants take in water through their roots and give off water through their leaves. Man needs water. Therefore, a pure water supply is very important to a community. The water in the streams must be kept pure.

Man uses bodies of water in many ways. He has good times fishing and swimming and wading. He builds boats and ships to carry people and goods across water bodies. He uses water power to make machines work—to grind grain, to produce mechanical and electrical power.

Water washes away soil. When we lose soil, we lose wealth because our crops depend upon the soil.

The soil washed from the land is carried into the streams. It clogs up the streams and interferes with transportation. Man can plant grass and trees on bare soil to keep water from washing it away.

Water changes to ice when it is cooled. Man has found that ice is very helpful to him in his daily life. Water changes to steam when it is heated. Man has learned to make steam work for him.

Water has often been a barrier between men. Oceans have separated people and prevented their knowing, understanding, and working with each other. Ships have helped to break down this water barrier, and today airplanes are helping even more.

Suggested Problems for Discussion and Study

1. Where does water come from?
2. How does it get into the air?
3. How does it get out of the air?
4. What form of water do we see falling from the sky? (rain, snow, sleet, hail)
5. How do we fit our work and play to these different forms of water?
6. What happens to water that falls on the earth?
7. How are streams and other bodies of water formed?
8. What water bodies can we see in our landscape?
9. What water bodies have any of us seen in other places?
10. How do people use bodies of water for travel and recreation?
11. What happens to water when it is heated?
12. What happens to water when it is cooled?
13. How do plants get water?
14. How do plants give off water?
15. How does water help man?
16. How can we keep water clean and pure?
17. Why do communities provide themselves with a good supply of pure water?—Relation to problem of stream pollution.
18. How does the amount of the water supply affect the ways people live?
19. What is water's relation to sanitation?
- lake, or an ocean? Examine water from them. Can you visit a place where you can see where one body of water flows into another wider or bigger body?
3. Which water bodies can we show in miniature on the sand table?
4. Make dew. Put ice and a little water into a pan on a warm day. Move the ice around. Watch for little drops of water on the outside of the pan. How did they get there?
5. Watch water evaporate in the following ways. Paint a picture and watch it dry; watch puddles disappear; watch clothes dry; make a clay article, place it in the air for several days; what happens to the clay? Put it in a kiln, what happens?
6. Put a leaf in water. Leave one out. See what happens.
7. Watch the water in the gutter after a rain-storm. Which direction is it moving—fast or slow, why—where is it going? Why is the sewer inlet at that place?
8. Visit the city filtration plant if possible. Observe wells in the country.
9. Pour some water into a pan. Tip it to see in which direction the water runs. Make it run faster by tipping the pan higher.
10. Put soap flakes into some water. (First you see bubbles, then you can see the soap distributed through the water. The soap has become part of the water. Try to dissolve paper, wood, stones, or other objects. Do they become a part of the water?)
11. Put sawdust or sand into a glass of water. Stir it around and around. What happens to it? Can moving water carry soil?
12. Visit the school grounds and watch on your way home to find a place where soil is being washed away.
13. Make frost by putting rock salt on ice cubes in a glass.
14. Make a list of the uses your family makes of water.

Example—washing hands and face

Bathing	Washing dishes
Shampooing hair	Drinking
Washing clothes	Watering the lawn, garden
Cleaning house	Heating our houses
Cooking	

Some Appropriate Activities

1. Look at a map or globe. You will see that there is more water than land on the earth.
2. Plan an excursion through your community. Can you find a brook, a creek, a river, a pond, a
15. Discuss soil erosion.
16. Look at a map or globe. See how water separates countries. Take a string and measure

- the shortest distance between those countries. Why can an airplane travel between them by a shorter route than a ship?
17. We watch the window glass in the kitchen when something is cooking in the late fall, in the winter, and in early spring. The air in the kitchen is warm and the windows cold. Some water comes out of the air and gathers on the glass.
 18. We see that people's glasses steam up and have small drops of water on them when they come from the cold into a warm room.
 19. We watch the cloud above a teakettle. Where does the cloud go?
 20. We watch Mother iron damp clothes. When she finishes they are dry. Where is the water?
 21. We watch the windshield on Father's automobile when we almost close the windows and we are inside.
 22. We cut a potato in half. When we feel it, or rub the cut side against a glass or paper, what do we find? We can cut a slice, place it on a piece of paper, and draw a circle around it. After it has been left for a few days, look at the potato and the circle. What has happened? Why?
 23. Lay a leaf between two papers and put a book on it overnight. Next day feel the paper. What has happened? Leave the leaf there for a week. Examine the leaf and the paper. What happens?
 24. Cover the soil around the stem of a small potted plant with a piece of paper, fitting it tightly around the stem and against the sides of the flower pot. Turn a glass jar upside down over the plant and leave it for a day. What is on the inside of the jar? Where did it come from?
 25. Hold your hand under a faucet while the water runs fast. What happens to your hand? Turn the water on slowly and notice the difference. When does it push harder?
 26. After a rain take a walk and see how water has pushed things. Can you find some places where running water has changed the land? Where running water is cleaning the streets or the gutters?
 27. Put oil in water, stir it around. What happens to it? Why?
 28. Put some sand in water and stir it. What happens? Why?
 29. Put some ice cubes in a jar of water. What do they do? Why?

30. Put some salt in water and stir it. What happens to it?
31. Put a little dry soil in a glass jar and pour in some water. Do you see bubbles in the water? Where do they come from? What pushed the air out of the soil? (This is why we find earthworms on the ground after a heavy rain.)
32. Learning all the forms of water:
How many do you know? Where can you find each one? Can you find all of them in all the seasons?

THE INDIANS WHO LIVED HERE BEFORE US

It is desirable that children learn about some cultures different from our own. The Indians are an interesting topic to children of this age-level and their culture presents many contrasts to our own. A unit on Indians also helps children to form an idea of the past, relative to the present, and to appreciate that people may live in the same natural environment as others, but live very differently because they possess scientific and cultural advantages which the others lacked, and which were developed to make life easier and more comfortable. It is not desirable at third-grade level to try to teach all the different Indian peoples of the United States. It is better at this age-level to take one type—the forest Indians of Pennsylvania, the plains Indians, the southwestern Indians, or a specific local group—and develop their particular type of living, showing how it grew out of their natural surroundings.

It is desirable in approaching this unit to ask the children some such question as, "Who were the very first people who lived in our community?" Then explore together how much they really know about Indians before going further into the unit. Let them suggest "What We Would Like to Know About the Indians" before using such problems as those listed below.

Points for Emphasis

As with all primitive people, the Indian's ways of living were largely determined by his natural environment. The forest Indians lived in bark wigwams, they wore furs and skins, they ate the foods of the forest and streams, they did not move much from place to place, gradually they learned to clear spaces in the forest and raise some crops. (Opportunity to develop emphasis on "whole grain cereals," wild rice, natural maple sugar, honey,

corn meal, etc.) The plains Indians had few trees, so they built skin tepees; they hunted the roving herds of buffalo for food and clothing; so they moved often, following the herds, and rarely made any attempt to cultivate the soil.

Although we think of the Indians as warlike, they fought, generally, only when their hunting grounds were threatened by other tribes or by the invading white men. They all had some religion, usually a kind of nature worship, which they observed with chants, rituals, and ceremonies. Their music, largely produced by drums and rattles of various kinds to the rhythm of which they chanted, was used for religious ceremonies or for their war dances.

They had no government in the sense we recognize. They lived in scattered groups with a local chief, and they did not depend much on others for necessities and services as we do. Each family or small tribal unit was largely self-sufficient, and the large tribe acted cooperatively only in war and in religious observances. The tribes' attitudes toward ownership and use of material resources, streams, hunting grounds, were the key to the misunderstanding between the Indians and the newcomers.

They had no schools but their children learned by helping their parents with their work—the girls working with their mothers in gathering and preparing food, in tilling the soil, in moving from place to place, and in caring for the babies; the boys learning to hunt with their fathers. They also learned by hearing stories told around the campfires and by being taught the customs and lore of their tribe by some of the older, wiser people. When a boy came to manhood he went through certain tests to prove his courage and physical strength.

Suggested Problems for Discussion and Study

Choices may be made among the questions below as they are needed to supplement and extend the children's own questions:

1. What animals did the Indians know? Where and how did these animals live? How did they help the Indians? Did the Indians tame any animals?
2. How did the Indians travel? (No wheels available.)
3. How did the Indians tell time and direction?
4. How did the Indians produce sound? What did they use it for?

5. How did the Indians light fires?
6. What materials did the Indians use to make tools, utensils, containers?
7. What plants did the Indians use? What are some of the uses Indians made of plants? Did they raise any crops?
8. How did they make their houses? Of what?
9. How did they make their clothes? Of what?
10. How did the Indians communicate with each other?
11. In what ways did the Indians' life resemble ours? In what ways was it different?
12. What kind of government did they have?
13. How did the Indian children learn the things they needed to know to be good Indians? How did they have fun?
14. What kinds of work did the women do before we came here? the men?
15. What can we still see in our landscape that the Indians saw when they were here? What can we see that they could not have seen?
16. Are there still Indians in our community? in Pennsylvania? in the United States? Do they work and live, dress and play, as the early Indians did?

Some Appropriate Activities

Children enjoy making an Indian tepee large enough to play in, and wearing feathers in their hair. There is no objection to such activities if they are derived from accurate information about the plains Indians whom they are imitating. But children should be aware that *all* Indians did not dress in this way, nor live in tepees. Actually, the Pennsylvania Indians lived in round-topped, frequently quonset-shaped bark wigwams; they did not wear war bonnets; and they were, on the whole, peaceful tribes.

Whatever activities are developed as part of this unit should be an outgrowth of factual information about the lives and customs of the particular type of Indians which has been selected. The local historical society should have access to excellent basic materials for teachers.

1. Comparing Our Lives with the Indians' Manner of Living

This can be done with contrasting drawings of such items as our home, girls' clothing, boys' clothing, how we travel, how we communicate, how we play and so on.

2. *Comparing Our Foods with the Indians' Foods*

Lists may be made in two columns—one our food; the other the Indians' food, so far as we can find out about it—under such headings as “meat,” “vegetables,” “desserts” and so on.

Experimenting with drying, grinding, preparing, and cooking corn foods.

Finding out why “pemmican” and old-fashioned mince meat are somewhat alike.

Let the children plan an Indian menu for the lunch room.

The Indians had a mixed diet: corn in many forms; they used blueberries and cranberries in their corn breads as we use raisins; maple sugar and honey; Indian rice; meats of many animals.

Emphasis: Natural foods.

3. *Studying Indian Tools*

Almost any Pennsylvania community has a collector of Indian relics and the children will enjoy studying these at first hand. They will gain some idea of the Indians' real skill if they try to make stone tools themselves. Try grinding or pounding corn with a wooden pestle. The children might like to try some basket-weaving, using native plants; to mold, decorate and fire some utensils from local clay; to dye some cloth or yarns, experimenting with pokeberry, or other berries, with barks, tea leaves, or beet juice, to weave with this dyed yarn; to prepare and tan a skin; to find out how to make a pair of moccasins that will fit; to experiment in order to make drums and rattles.

4. *Learning to Tell Direction by the Stars, and Time by the Sun or Moon*

The Big Dipper has “pointers” which lead the eye to the North Star. Once we know north we can find the other directions. The sun is highest, and the shadows shortest at noon. The Indians called each month a “moon” and measured it from one full moon to the next. Let us watch to see on what evening the moon is really “full,” then see how many days it is until the next full moon.

5. *The Children Will Enjoy Indian Music and Rhythms and Games*

6. *Indian Arts Were the Expressions of Their Beliefs and the Things in Their Everyday Lives*

They “wrote” by means of pictures. Developing some of these aspects will involve many desirable and meaningful activities.

¹ See Holiday Bibliography, pages 156-157, and Appendix.

HOLIDAYS AND SPECIAL DAYS

As in former grades, holidays¹ in which children have special interest should be observed as a part of the regular activities of the school.

Easter, however, has been selected as the special holiday for emphasis in third grade because of its relation to the “living again” and the creation of new life which occurs in nature in the spring. The traditional “egg hunting,” the Easter rabbit, the return of the birds, and the budding flowers and trees of Easter time hold a particular fascination for children of primary level.

Each year the Governor designates Arbor and Bird Day. Some of the problems and activities listed in the outline may be used in connection with those days.

The week in which April 9 falls is Conservation Week. The many aspects of conservation included in the outlines for Grade III may be reviewed during the week. Conservation and “clean-up” campaigns may be discussed during Good Citizens Week. A Play Day Program may be planned for May 1, National Child Health Day.

Points for Special Emphasis

Easter has come to represent, in the Christian world, the resurrection of life which occurs with the coming of spring. This is, however, a religious holiday and the sacredness of the time can be maintained, although religious instruction is not within the province of the school.

Spring is the time of renewed growth and new life. The days grow longer and warmer. The ice and snow melt. There are many rainy days. Some days there are strong winds, too. Trees bud, blossom, and begin to bear fruit. Seeds and dormant plants begin to grow. Wild flowers appear in the woodland. The birds return from their winter homes, find nest sites, and build nests. Animals, which have been sleeping all winter, awaken. Animal babies are born in the springtime. There is new life in the pond and along the creek, too.

People are working indoors and outdoors “cleaning-up” after the long winter. The soil must be prepared and the gardens planted. Winter clothing must be cleaned, repaired, and stored for the summer.

Children are busy—repairing bicycles, fixing roller skates, and making new kites.

Spring is a busy season for the farmer, too. Fields

are plowed and seeded. The animals are taken out to pasture. New baby animals must be cared for.

Suggested Problems for Discussion and Study

1. What signs of spring did you see as you came to school today?—Dandelion *greens*; value of *green* foods.
2. What holiday do you think of when you think about spring?
3. Why do we observe Easter?
4. Why is spring the sign of new life?
5. What kind of weather do we expect to have during this season?
6. How has the location of the sun in the sky at noon changed since December?
7. What do you notice about the length of daylight?
8. What birds have you seen?
9. Have you watched a bird building its nest?
10. What wild flowers are blooming?
11. What wild animals have you seen?
12. How do birds, wild flowers, and wild animals make our community more attractive?
13. What can we do to conserve the wild life about us?
14. Why is it important to conserve wild life?
15. What fruit trees are in blossom? Are the trees blossoming earlier than usual? What may harm the fruit blossoms?
16. What shade trees are in blossom?
17. What signs of spring do we see at the pond or along the creek?
18. What kinds of work are done about your home in springtime?
19. What can each of us do to make every day in the year a "clean-up" day?
20. What games do we like to play in springtime? Why?
21. What keeps the farmer busy during this season?
22. Children can find out how to plan and make Easter candies and baskets; can boil and decorate eggs; can plan Easter surprises for younger children.

NOTES FOR BULLETIN 233-C

Grade IV

INTRODUCTION

FOURTH GRADE was once considered to be the place where formal geography, history, and science began. In this bulletin the Social Living Area is so organized as to avoid the abrupt beginning of specialized study anywhere in the elementary school. The material is so set up as to contribute cumulatively to the idea of the ever-expanding community. In the primary grades the children have studied and discussed ways of living and making a living in their immediate communities. Topics about living and working at home and at school were the centers of interest in Grade I. The child's community grew larger, when, in Grade II, he learned and talked about ways of living and working in his home locality. In Grade III, his journeys, either real or imaginary, to visit his farm or city neighbors enlarged his community. He discovered that his community depends upon other areas for a part of its necessities and services.

It is a logical development, in Grade IV, to expand the child's idea of his community to show it is a part of the county, the State, and the world. Through the study the child begins to realize that people live in communities in all parts of the world and that people all over the world are alike in many ways. All need shelter, food, and clothing. All carry on some kinds of work and use certain tools in their work. They have ways of transporting goods and people from place to place. They like to play games and have good times, too. The ways in which other people live and work may differ in some respects from our ways of living and working. The differences are explained in part by the kind of land in which the people live and by the kind of people who live in the land—what they have learned from their ancestors and what they are educated to do.

At this age level children are Cubs and Brownies. They are collectors whose pockets are full of everything from hoptoads to bubble gum. They are hero-worshippers. They want to know the human interest details in the stories of people of other times and places. It is the function of the teacher of this grade to direct these interests through a wise selection of material. It is the task of the individual teacher to select from this general outline those topics and concepts which are suitable for her group of children.

The county resources should be utilized as much as possible. Counties have varying amounts to offer in natural and human resources, historical events and local festivals, ways and means of living, and cultural contributions to the world. A county where manufacturing, mining, and farming are carried on, and one which is rich in historical events would present more material for study than a county possessing only one of these resources. Whether or not the county provides suitable material at the child's maturity level, a brief survey of the county in its relation to the State should be made; the study of communities in other parts of the world will be the larger part of the year's work.

The year's schedule for the relative proportions of time should be planned by the teacher with her principal, supervisor, or superintendent, after due consideration has been given to the above points. All units, however, should be evaluated by the following criteria:

1. What has the unit contributed to the development of the general understanding that man's ways of living are in part related to his cultural heritage and in part to his natural surroundings?
2. Did the unit arouse curiosity and stimulate interest in man, his heritage, and his environment?
3. Did the concepts developed lead to new problems?
4. Has the class shown growth in appreciation of other peoples and their problems?
5. What did the unit contribute to the understanding of the interdependence of people?
6. What growth and mastery in the use of tools are evident? (Map signs that function in ability to interpret maps; growth in recognition of landscape items and in reading relationships from pictures or landscapes; habit of seeking for information in pictures and maps.)
7. What new vocabulary terms were mastered?
8. How well has the habit of checking information been established?
9. What new interests in the home landscape were stimulated through the unit study? (conservation, beautification, realization of relationships)
10. What has the unit contributed to the idea of a spherical world?

HOW PEOPLE LIVE AND WORK IN OUR COUNTY

Surely the interest and ingenuity of fourth-grade teachers and pupils will be challenged when they begin a study of their own county. No textbook company is likely to explore the nooks and crannies of your own immediate environment. The fun is all yours, and what a splendid opportunity it will be for group study. Here are a few words of caution: Keep valuable and pertinent resource material from year to year, but don't stunt the interest of your children by using "last year's plans." Make your study at the child's level, not yours. They are really interested in how Daniel Boone used a powder horn—what it looked like, how it was made and used—but not the day and year he died. Go to see real things wherever possible. Collect, experiment, make, and illustrate; in short, use every facility that will make your unit a stimulating, interesting, useful experience.

Points for Special Emphasis

If the unit is broken down into its component parts, the particular emphasis of history, geography, and science can be seen. The environmental factors

attracting early people to the county, and the use they made of such factors is the historical concept. In geography, the emphasis is upon how people live and work in the county today and why they live and work as they do. We discuss work activities, such as farming, animal-raising, forest industries, and transportation as related to land forms, weather and climate, soil and other features of the natural environment; transportation, water supply, hydro-electric power, and recreation as related to streams and other water bodies; mining and quarrying as related to mineral resources; manufacturing and processing industries; plants and animals as related to people's activities; weather and its effect upon the work of the people.

Science includes a study of natural resources and how we use them. Some interesting experiments can be performed to show types of soil and to illustrate how soil is removed from one place and deposited in another. The problems of conservation are involved in the topics for discussion and should be stressed.

This is the logical time to begin to teach the use of a simple map¹ and globe. In the primary grades

¹ A simple map is one that shows *only* those symbols which are needed in the study of that particular unit or topic.

the children had experiences in making maps of places they visited or journeys they took. Surely they have used a globe in their discussions. The tools are not entirely new to them. But recognition and use of new symbols are to be developed. The best way to learn the meaning of a map symbol is to go outdoors and see the land or water form for which the symbol stands. Pictures should be substituted where a concrete illustration cannot be seen in the landscape. The material on the field trip included in the activities of this unit will help you in your map work.

Because of the lack of printed material, there is abundant opportunity for varied research. Once the enthusiasm of the children is aroused, they will go on a treasure hunt for pictures, antiques, folk stories, written and oral accounts, newspaper clippings, advertisements, anything that gives information about the county. It is good practice to make several copies of good source material and bind them in loose-leaf covers so that they can be added to and used by succeeding groups as a part of the classroom library. This does not mean building a fixed body of content to be used as a text.

There will be many opportunities for trips and cooperative planning, with abundant chances to practice courtesy, both in travel and in acquiring information; training in observing and collecting facts, and presentation of oral and written reports.

Suggested Problems for Discussion and Study

1. What is a county? What is the name of ours? What is its purpose? What is the county seat? What happens at the courthouse? Do we have local people in our community who work at the courthouse?
2. Who were the first people who lived in our county? Who were the "newcomers"? What did they do to maintain themselves? Why did they come here? Who among them were outstanding people we would like to know about?¹ What historic sites would we like to go to see? Why?
3. What do the people who live now in our county do to earn a living? Why? Do the people depend wholly on the natural resources of the county or do they bring in materials? Why?

¹ Select from the Unit *How People Live and Work in Our State*, people who have been noted for specific achievements in the child's immediate community and in the county. Large cities may wish to use these suggestions as they apply to the city.

Where do they send their products? How do climate and weather affect what they do?

4. What would our county look like from an airplane? What features (rivers, lakes, reservoirs, roads, railroads, towns, cities, etc.) would be most easily recognized from an airplane? Is there any airmarking on roofs of buildings to help the pilot identify towns in our county? What does our county look like from an automobile? a trolley? a bus?
5. What rocks and minerals are there in our county? What are they used for? What is soil? How was the soil formed? What is happening to the soil? Is it being conserved? How do plants grow in different soils?
6. What other communities in our county do we visit? How do people travel from town to town?
7. How are transportation routes related to streams and land forms?
8. How many airports do we have? What airlines serve our county? Why are airplanes being used to survey and select routes for railroads and highways?
9. What facilities does our county have for people to enjoy leisure time? Why were the locations chosen? What can people do to amuse themselves at these places? Are there State or National Parks in our county?
10. What can be done to make our county a finer place in which to live and work?
11. How could our national resources be better conserved? Do our farmers use modern agricultural methods to conserve the soil and to increase production? Do our farmers use planes for crop-dusting, seeding, surveying, etc.?

Some Appropriate Activities

1. *Keep a Daily Weather Record.* Find out what kind of weather record the class kept in the primary grades. Plan a weather record for this year. Make a weather vane for use in telling wind direction. Add to the record the type of cloud seen in the sky each day. Decide on four cut-paper patterns, one for each of these kinds of clouds—cirrus, cumulus, stratus, and nimbus. (Do not give these words to the children.) Have the group decide upon descriptive names for these four cloud types, i.e., cumulus, the big puffy kind; cirrus, the long feathery kind, etc. Paste the cut-paper cloud

on the weather record each day. Note time of day and the location of the cloud in the sky and check the weather that follows.

2. Record the change in the length of shadows through a cycle of seasons and the change in the length of daylight and dark through a cycle of seasons. (See second reference, bibliography page 156.)

3. *Make Field Trips:*

- a. To the highest point in the community, maybe to a hill or the top floor of a tall building. Note general topography, take notes, learn descriptive vocabulary, draw diagrams, and locate significant features:

crest	mountain range	plains	slope
foothills	pass	plateau	summit
glen	peak	ridge	valley, etc.

A rough map developed from the notes and diagrams of the pupils will be more meaningful than any other map they will ever use.

Carefully lead from this "home-made" map to other maps generally used in geography to make them more real and meaningful.

- b. To a stream. Such water terms as the following can be made meaningful:

bay	mouth	river	strait
brook	pool	rivulet	tributary
channel	rapids	source	waterfall
creek	rill	spring	whirlpool
lagoon			

Such land terms as the following can be made meaningful:

bed of stream	isthmus	promontory
cape	peninsula	right and left bank
delta	point	sand bar
island		

Again the construction of a simple "pupil-made" map is the basis for real understanding and for leading into more formal map work.

- c. Through fields and woods

For specimens of rocks and minerals: Gather, label, and keep for use in the schoolroom. Pupils should recognize those in their community and then find out in what other parts of the county, State, nation, or the world they are found. Pupils should learn the uses of these rocks, minerals, etc.

For specimens of soil: Place in glass jars and label. Reading and reference work will help to explain their uses. The fertility of various soils can be learned by observing the growth of crops cultivated in the commu-

nity. (This could be the main objective of another field trip.)

For studying trees and plants: Get a leaf and a bit of bark or branch from each. Preserve and mount them in the schoolroom and have children find the names of those not commonly known.

Take another field trip to see if pupils can recognize by their own powers of observation the specimens which they have studied. (This is a form of evaluation.)

Using reference books, pictures, films, local people, etc., study the uses of these trees or plants. These experiences which begin in the child's environment form a meaningful basis for similar future work on a broader scale.

If possible take longer excursions to see how industries are built upon the use of these natural products. Manufactured products (and many advertisements for them) will help to show their many uses. This type of work forms a fine basis for a "local products map." This experience will put more meaning into the products maps found in books or distributed by various commercial agencies. It should help pupils develop that "over-all understanding" of a region.

4. Find out what characteristic things were made by fathers, mothers, children in our county before there were factories—furniture, pottery, candles, homespun cloth, quilts, dolls. How were candles made? Experiment to make them. Learn the meaning of such words as spinning, carding, reeling, weaving, through first-hand experiences with raw wool, cotton, silk.
5. Find out if there are any recipes peculiar to our county. Can we see some of this food being prepared or do it ourselves?
6. Ask our parents and grandparents what people did together for fun when they were young. Let's do some of those things today. Find out about the songs, dances, quilting parties, husking bees, using these in a play.
7. Compare family living on a farm to family living in a city. (Don't assume that all city homes are alike or all farm homes are alike. There are, for example, many farm homes with all modern conveniences and many city homes without them.)
Housing—Space, water supply, heating

Food supply—Produced at home, marketed, stored at home in freezing lockers
 Clothing—Made at home, purchased
 Employment—Work, School, Church, Recreation.

8. Find out, from a map, the names and locations of counties that border on our county. Do we have neighboring counties on all sides? When automobile riding or when hiking, look for road signs that tell you that you are on the boundary line of a county. What was the name? What county? Look it up on a map.
9. Find some local clay, clean it, experiment to make some miniature native bricks, or flower pots for seeds.

HOW PEOPLE LIVE AND WORK IN OUR STATE

Fourth graders are aware of our many relations with State government and have some concepts about Pennsylvania. They recognize blue and orange automobile license tags as distinctive to our State. They know their fathers get hunting and fishing licenses issued by the State. They can distinguish between the local and State police. They know community neighbors who are elected to the General Assembly. Once they have studied their county, they are ready to consider the larger community, the State, of which their county is a part.

Material will be easier to find for this unit, but because of its increased area we must be even more cautious to keep it at the child's maturity level. We shall be more likely to do this if we keep our purpose simple. "How Pennsylvania started and how it became what it is today," or "How our community and State have contributed and are contributing to each other" or "How the people of our State have used and are using the geographical factors to industrial, social, and cultural advantage" are examples of problems that could be used.

Points for Emphasis

If a child is to realize that his county community is a part of his State, it is important to use the items in the local community in the study of the larger community. The quality of family life affects the quality of the community, of the State. Children must recognize the importance of democratic practices within the family group and the resulting effect upon the community.

The idea that the State is a larger community

composed of county communities similar to one's own is an important concept to keep in mind.

The history of Pennsylvania is presented through stories about people who have made important contributions to State and nation. The contributions and everyday lives of the people to be studied are to be stressed without extensive reports of an encyclopedic nature or detailed biographical material. The emphasis for the study of each hero is suggested. Care must be taken to provide worthwhile materials, eliminating all trivial and unimportant facts. As the study progresses, the child may find interesting emphases other than those provided in this outline.

This unit provides excellent opportunities for an enriched program for the gifted child. He should be encouraged to utilize as much of the biographical material as is interesting to him. In case of limited resource material on the reading level of the child, he is to be encouraged to search for extra materials at home and in the community. Interesting written materials on the historic State and on the Pennsylvania of today, movies, pictures, simple maps, and newspaper clippings are easily acquired for the enrichment of this unit. A word of warning must be given against detailed, statistical, factual teaching. Actual trips and interviews with interested people provide good means for collecting worth-while material, both geographical and historical. The fourth-grade child is not interested in materials of this sort unless it has meaning for him and comes within his range of experience.

There is opportunity for an increased use of symbols on simple maps and globes. As soon as the symbols have functional value to the child, the symbols should be presented. Geographic learnings are also gained from pictures and from landscape observations.

Problems for Discussion and Study

1. What are the contributions our community makes to the State?
 - a. What contributions has our community made to the State in the past?
 - b. What are the natural resources of the community contributing to the industry of the State?
 - c. What are the industries in our community which provide goods for the State?
 - d. Why does our community have special contributions to make to the State?

- e. What special contributions do the people of our county give to the State? (Contributions of groups of different background differ, for example, the Pennsylvania Germans have a different specific contribution from that of the Scotch-Irish.)
2. How did William Penn found a new home for the persecuted peoples of Europe? *Emphasis:* William Penn founded and developed the State of Pennsylvania where religious and political freedom was established.
3. What was the life of the boy or girl like in Colonial Pennsylvania? What food and family customs have we received from them? Take one sampling from the following:

The Moravians	The Quakers
The Pennsylvania Germans	The Swedes
4. What new things did Benjamin Franklin develop which helped the people of his State and his country? *Emphasis:* Benjamin Franklin was an inventor and an organizer. He was interested in planning for the good of his community. *Emphasis* should be on Franklin as the

Inventor of a stove, rocking chair, bifocals, lightning rod	Discoverer of the fact that lightning is electricity
Editor of a publication which is still in existence	Organizer of a fire company, police department, library
Patriot who helped free the colonies	
5. What contributions have others made which helped our State and nation? (Teachers should use excellent judgment in choosing names from this list. Certainly no class will want to study more than a fraction of the names listed.)

OUTSTANDING PENNSYLVANIANS

NAME	WORK	COUNTY WITH WHICH ASSOCIATED
Abbey, Edwin A.	Mural painter	Philadelphia
Alcott, Louisa M.	Author	Philadelphia
Aliquippa	Indian Queen of Western Pennsylvania	Allegheny
Alter, David	Scientist	Westmoreland
Audubon, John James	Ornithologist	Montgomery
Barnard, George Grey	Sculptor	Centre
Barry, John	Revolutionary naval officer	Philadelphia
Bartram, John	Botanist	Philadelphia
Beaver, James A.	Statesman	Perry
Beissel, Johann Conrad	Founder of Ephrata Colony	Lancaster
Bliss, Philip P.	Evangelist	Bradford
Boone, Daniel	Pioneer leader to southwestern settlements	Berks
Boyd, James	Novelist	Dauphin
Bradford, William	Printer	Philadelphia
Brady, Hugh	Soldier	Northumberland
Brown, Charles Brockden	Novelist	Philadelphia
Brodhead, Daniel	Soldier	Monroe
Buchanan, James	Statesman and President of U. S.	Franklin
Cadman, Charles W.	Composer	Cambria
Cameron, Simon	Statesman of Civil War Period	Dauphin
Carnegie, Andrew	Philanthropist	Allegheny
Cooke, Jay	Banker	Philadelphia
Complanter	Indian Chief	Warren and Venango
Curtin, Andrew G.	Statesman	Centre
Darragh, Lydia	Quaker heroine of the Revolution	Philadelphia
Davis, Richard Harding	Novelist	Philadelphia
Decatur, Stephen	Hero of Tripolitan War	Philadelphia
Dickinson, John	Patriot	Philadelphia
Drawbaugh, Daniel	Inventor	Cumberland
Drew, John	Actor	Philadelphia
Fitch, John	Inventor of steamboat	
Foster, Stephen Collins	Composer	Allegheny
Franklin, Benjamin	Statesman	Philadelphia
Frietchie, Barbara	Heroine of Whittier's poem	Lancaster
Fulton, Robert	Artist and Printer	Lancaster
Gallatin, Albert	Statesman	Fayette
Gallitzin, Demetrius Augustine	Missionary	Cambria
Gibson, John B.	Patriot of 1740-1822	Western Pennsylvania
Girard, Stephen	Philanthropist	Philadelphia
Grow, Galusha	Statesman	Susquehanna
Hamilton, Andrew	Architect	Philadelphia
Harris, John	Pioneer	Dauphin
Hopkinson, Joseph	Song-writer	Philadelphia
Jefferson, Joseph	Actor	Philadelphia
Jemison, Mary	Pioneer	Adams
Kane, Elisha	Arctic explorer	Philadelphia

NAME	WORK	COUNTY WITH WHICH ASSOCIATED
Knox, Philander C.	Statesman	Fayette
Logan, James	Statesman	Philadelphia
Matlack, Timothy	Revolutionary patriot	Lancaster
McGuffey, William H.	Writer	Washington
McMaster, John B.	Historian	Philadelphia
Meade, George Gordon	Soldier	Philadelphia
Morris, Robert	Revolutionary financier	Philadelphia
Morton, John	Patriot	Delaware
Mott, Lucretia	Feminist	Philadelphia
Muhlenberg, John Peter	Revolutionary preacher and patriot	Montgomery
Nevin, Ethelbert	Composer	Allegheny
O'Hara, John	Industrialist	Allegheny
Paine, Thomas	Author of <i>Common Sense</i>	Philadelphia
Peale, Charles	Artist of the Revolution	Philadelphia
Peary, Robert E.	Discovered North Pole	Cambria
Penn, William	Founder of Pennsylvania	Philadelphia
Pitcher, Molly (Mary McCauley)	Heroine of Monmouth	Cumberland
Priestley, Joseph	Scientist	Northumberland
Ross, Betsy	Reputed maker of the first U. S. flag	Philadelphia
Rush, Benjamin	Physician	Philadelphia
St. Clair, Arthur	Soldier	Westmoreland
Salomon, Haym	Revolutionary financier	Philadelphia
Stevens, Thaddeus	Statesman and leader in Free School Movement	York and Adams
Stiegel, Henry William	Glassmaker and ironmaker	Lancaster
Taylor, Bayard	Author	Chester
Wayne, Anthony	Soldier	Chester
Weiser, Conrad	Interpreter to the Indians for the Penns	Berks
West, Benjamin	Artist	Delaware
Westinghouse, George	Inventor, scientist, and industrialist	Allegheny
Wilnot, David	Statesman	Bradford and Wayne

6. What are the outstanding events which happened at the following places that make them important in our history? (Choose those which are of particular interest to people in your community. Others to be selected, including those of local interest.)

Bethlehem	Fort Necessity	Pennsbury
Bushy Run	Fort Pitt	Philadelphia
Ephrata	Gettysburg	Valley Forge

7. How is life in other typical communities, mining, agricultural, industrial, or commercial—different from our own county or community? How is life similar to life in our community? Account for these likenesses and differences? *Emphasis:* How working and living in these communities are explained in part by the kind of people who live there, by their skills and knowledge, and by the kinds of natural resources in the community.
8. What has made Pennsylvania a rich state?
- What materials do we get from the earth?
 - What has the soil contributed? Has the soil been used wisely?
 - What other resources contribute to the State's wealth?
(Water power and forests)
9. Where would you go in our State to find sites of natural and man-made beauty? (State and National Parks, forest reserves, etc.)

- Where would you go if you wanted to spend your vacation at a mountain resort? Why would you go there?
- Where would you go for a vacation to find lake or river scenery?
- Where is a place, near your home, you could recommend as a scenic spot?

Some Appropriate Activities.

- This unit is not wholly covered in books which are available for both children and teacher. It allows children the opportunity to prepare reports in the form of simple oral stories given for the enjoyment of an entire group. The gifted child may gain experience in preparing these reports with material from local libraries or from his home library. Interesting textbooks on heroes, as a part of the history program, are available.
- Collect information about the State for use in class discussions and as background for other activities. Historical societies and interested citizens are usually eager to contribute local lore. This interviewing is excellent practice in command of oral language for these children.
- Excursions to historic sites existing in the community are good experiences to impress the

child with the fact that these heroes actually lived at one time in their own neighborhood.

4. Dramatization of phases of the lives of these heroes is a desirable activity.
5. When Benjamin Franklin is studied, a kite that will fly can be made.
6. The folk songs of Stephen Foster may be learned.
7. Copies of the art of Benjamin West and of other Pennsylvania artists may be exhibited and examined.
8. A one-string fiddle and bow can be made and used with the folk songs.
9. Develop two or three topics to show how science has affected home life—heating, sanitation, lighting, care and preparation of food, clothing.
10. Design a mural or frieze on Pennsylvania. Use local art design peculiar to a people, for example, art characteristic of the Pennsylvania Germans (Pennsylvania has many national groups; too many of these should not be selected.)
11. Participate in a community enterprise, such as a clean-up program, or any other program in progress.
12. Use the bulletin board for newspaper clippings of interest.
13. Examine pictures or pieces of furniture typical of historic Pennsylvania groups. Compare them with furniture of today.
14. Dress dolls in early Pennsylvania costumes.
15. Develop two or three topics to show how science has affected farming, or some other industry—plowing, harvesting, mining, lumbering, steel manufacturing, control of insects and plant diseases, control of soil erosion, textiles.
16. Plan appropriate activities for William Penn Day, October 24, and Benjamin Franklin's Birthday, January 17.
17. Plan a pageant or a play depicting early life in Pennsylvania or some theme related to life in Pennsylvania. This may serve as a culminating unit.
18. Learn some typical Pennsylvania dishes; prepare one or more, have a "party."
19. Find out about the paper industry, the textile industries. Experiment in making paper. Using this handmade paper, prepare a gift card or special letter.

Examine raw textile fibres, card the fibres, spin by hand, experiment with a hand spindle (making one if none available), try making a hand spinning machine that will work. These activities provide children with many opportunities to do research and problem-solving at their level.

20. Learn about the industries of the Pennsylvania Germans—Find out how they made their quilts, hooked rugs, slip ware. Make some of these things.
21. Experiment to make durable covers for our stories and scrapbooks, if they are needed.

HOW PLANTS AND ANIMALS HELP OR HARM EACH OTHER

This unit is basically one of ecology. Ecology is that study which deals with the mutual relations between plants and animals and their environment. It should fix in a simple way the concept that plants and animals and men are interdependent. For example, meat production in the Great Plains is closely related to the same natural conditions that were found there when millions of buffalo roamed the prairies. Our dependence on clothing or housing materials is, however, a more complicated ecology than that of the simple Indian tribesman.

Care should be taken not to convey to children that all plant and animal relationships are perfected. They are not always in perfect balance. When new plants or animals are introduced, we may disturb the equilibrium of the area. Examples are the starling, loss of the chestnut in Pennsylvania, bubonic plague introduced on the West Coast by rats, and now elsewhere by ground squirrels. Pest control is an example of how we must continue to control some animals and plants. Quarantine laws are a phase of control. Use current news items and problems to illustrate this emphasis, for example, items on the current problem of rat-control.

In studying geographic settings different from that of the child's home, as in "How People Live and Work in Other Lands," some of the significant characteristics of the places are the plant and animal relationships. It will be evident that many plants and animals are dependent upon man if classifications of those dependent on man and those independent of man are made. Collections, various classifications of collections, field trips (for example, to observe succession of plant growth

following fire) are ways of making science interesting.

Points for Emphasis

1. *Concepts to Be Developed*

Plants provide food for animals

Plants provide homes and building materials for animals

Plants shelter animals

Some plants are poisonous to animals, including man, for example, poison ivy, water hemlock

Animals carry pollen from one plant to another

Animals carry seeds of plants

Animals eat plants, often destroying plants

Animals injure plants that man uses

Plants provide places for some plants to grow, as algae and orchids

Some plants are parasites on other plants, as dodder and mistletoe

Many animals are dependent on man

Some animals eat other animals for food, thus controlling the numbers

2. *Points of View*

Conservation

Humane treatment of animals

Recreation values of nature and outdoors

Real problems of your neighborhood and Pennsylvania, as a State, for use in arithmetic problems. See "Social Uses" in Chapter V.

Suggested Problems for Discussion

1. How do plants help animals? (Food, homes, shelter.) How do plants harm animals?
2. How do animals help plants? How do animals harm plants?
3. How do plants help plants? How do plants harm plants?
4. How do animals help animals? How do animals harm animals?

Some Appropriate Activities

1. Collect old bird nests, noting the plant materials used in making the nests.
2. Take field trips to observe where squirrels and other animals live.
3. Make notes of the food preferences of pets kept in the classroom.¹

¹ The American Society for the Prevention of Cruelty to Animals, 50 Madison Avenue, New York 10, N. Y., publishes at 25c per copy excellent resource units for teachers: *The Cat as a City Pet*; *The Dog as a City Pet*; and *Good Manners for the City Pet*.

4. Collect information from the class as to the monetary value of damage done by household pests. What can be done in your house to control household pests?
5. Make a field trip to observe good and bad methods of handling rat-control.
6. Observe poison ivy at different seasons of the year so that it may be avoided. Learn to identify it, help control it, and take proper precautions.
7. Visit a vegetable garden and observe damage done by insects.
8. Collect data on the damage done by any local pests.
9. Collect some bees to see how they carry pollen.
10. Make a collection of insect work on trees, bark, tree leaves, stems of plants, etc.
11. Make a collection of seeds and fruits that are carried by animals and on clothes of people.
12. Read about "imported pests," as the rabbit in Australia, the Japanese beetle, etc.

HOW PEOPLE LIVE AND WORK IN OTHER LANDS

In the over-all objectives for the social living area the need of teaching for world understanding has been emphasized. It is possible for fourth graders to acquire an initial world understanding through the study of type communities in far-off lands. This initial world understanding should include some measure of understanding that man's ways of living, working, and playing are explained (1) by the kind of land in which he lives, (2) by the skills and attitudes he has learned from his ancestors, and (3) by skills and attitudes he is developing now; that man pays particular attention to the seasons in planning his work and play; that seasons are a result of the apparent path of the sun in the sky; and that seasons vary with distance from the equator.

The units selected to build this world understanding are simple type regions. That is, the concepts developed in each unit include only understandings of work, play, and ways of living in relation to a few outstanding features of the natural environment and to a few outstanding accomplishments of the people.

The eight simple type regions included in this unit were selected because they represent regions at varying distances from the equator in the northern and southern hemispheres and serve to develop the understandings that there is summer weather throughout the year in lowlands near the equator, that summers are shorter and winters are longer with distance from the equator, and that in polar regions winter weather continues all year. The journey from region to region should be continuous toward and away from the equator in order to show the gradual changes which take place in the landscape.

Plans should be worked out each year for each new group of children. Several choices are given under the eight suggested areas of simple type regions, and one selection from each of the eight cannot, of course, be covered every year with every class. The teacher may consider the child's immediate interest when she is planning a unit on communities in other lands. The teacher should not overlook the possibilities of using a representative of another country who may be found in her class to begin the study of far-off communities; or she may use events of special current interest in the news. Throughout all units the tie-up with problems on the children's own level should be made.

The problems listed and type units included should be developed to show how the people's ways of living—clothing, shelter, food, work, and play—fit the land in which they live. The teacher's aim should not be "covering subject matter," but rather to use it as a guide in helping the child understand the similarities and differences of all people's ways of living and their adjustments to the natural environment. Emphasize especially the human qualities, problems, and needs—how families live and work together, how they make use of their resources, their health, their food, their fun—in short, how they live as well as how they make a living.

The teacher should develop the child's ability to read and use simple maps and globes. Map symbols, pictures, and vocabulary words should have a functional value: namely, to help the child understand these communities. When the need for new map signs, such as tributaries, rapids, or falls, arises, the teacher should, if possible, use concrete illustrations in her immediate community. If the community has a creek, it is very simple to take the children on a trip and point out a tributary, island, peninsula, and gulf. If this is impossible, then the selection of a good picture or use of the sand table will help the pupils to understand the

map symbol for that item. When children are acquainted with a new map symbol, have them use it. Have them find this new symbol on the globe. Have them locate the item in a picture that represents the symbol. Have them use this symbol to read relationships from the map. For example, "People probably use this river for transporting goods." Teach the children to read direction and comparative distances in this way: "City A is nearer the equator than city B."

What we do with pictures in this grade: We find items in pictures which tell us how man works and plays. We find items in pictures which tell us about nature. We relate these two ideas; for example, "Man uses wood for fuel and shelter in this land partly because there are many trees."

Cumulative charts or scrapbooks which carry on from unit to unit, are valuable when the class plans them with the teacher and committee responsibilities are understood and undertaken. Such general headings as Transportation, Dress, Food, Habits, Health, Games and Fun, Homes, Industries, will all have many items which can be gradually added as different units from the eight simple type regions are studied. These items can include the children's own descriptions and stories as well as pictures.

I. How Fishermen Far from the Equator Have Adjusted Their Ways of Living to a Northern Land with Few Natural Resources

(The fishermen of Norway, Iceland, or Labrador may be selected for study)

Here are suggestions for developing the problem; Labrador has been used for illustrative purposes.

Some people who live along the coast of Labrador are fishermen because there are many kinds of fish living in the waters along that coast. The fishermen fit their ways of living to land in which they live. The winters are long and cold and the days are short. The summers are short and cool and the days are long. Not much useful vegetation grows in the land. Many fish live in the cool waters offshore.

Points for Special Emphasis

What map skills shall we emphasize in this unit? We locate Labrador on a simple map and on the

globe. We shall determine the direction of Labrador from our home. We shall note that Labrador is located farther from the equator than our community. We shall review or learn these map symbols: land, ocean, coast, bay, and village, or city.

We read from pictures and books about the kinds of work carried on, how the work is carried on, how the people travel, what kinds of homes they live in, and what the natural landscape is like.

Suggested Problems for Discussion and Study

1. Why are the people fishermen?
2. How do they fish?
3. How do they preserve the fish they catch?
4. What do they do with the fish?
5. What dangers face the fisherman on his voyages?
6. Why are there no forests along the Labrador Coast? Why is there little vegetation of any kind?
7. In what kind of homes do the fishermen live? Why?
8. How is their family life like ours? How is their family life different from ours? What would be a typical family meal? How do members of the family dress? Do they share in the work of the home? What do these people do for fun?
9. What else can we learn about how the fishermen live and why they live as they do?
10. How does the length of the summer day in Labrador compare with that in our community? The winter day?

Some Appropriate Activities

1. A news item tells that five fishermen lost their lives when a freighter crashed into the fishing vessel. The collision occurred in a thick fog. What other things make fishing dangerous work? Watch for news items about the lands you study.
2. Experiment with a piece of ice in a pan of water. How much of the ice is above the water? How much is below the water? Why are icebergs a danger to ships?
3. Watch the World Map grow. Keep a record of all the places you study about this year on a large outline map of the world. Use a dot to show the location of your own community. Show Pennsylvania. Use a broken line

to show an air journey from your home to Labrador. Color the coast of Labrador.

4. Make creamed cod fish from salted cod. Fourth-grade pupils should know to what *food group* fish belong, and that they meet the need for protein food in our diet.
5. Keep the bulletin board "active" with maps, news items, pictures, book lists, etc., about Labrador.
6. Use audio-visual aids, if possible.
7. Start a series of scrapbooks, posters, pictures or "models" of homes, food, etc., which will carry through all these units. They may be the nucleus of a parents' night later.

II. How the People of the Netherlands Have Reclaimed Land from the Sea and Have Developed It into a Prosperous Land

(A problem on a delta village in China may be substituted)

The Netherlands is a country along the coast of Europe. "Netherlands" means lowlands. Some of the lowland was once covered by a shallow sea. The people drained the land and now use it for dairy farming. They raise vegetables and flower bulbs. Some people are fishermen. Others work in factories. Many find employment by carrying on trade. The Netherlands is on the delta of the Rhine River. Delta land has deep, fertile soil. Winter here is neither so long nor so cold as winter in Labrador. Summer in the Netherlands is longer and warmer than summer in Labrador. There are many rainy days in both winter and summer.

Points for Special Emphasis

We will use pictures, blackboard drawings, and sand table, or perhaps the schoolyard to teach the new vocabulary terms: dike, dune, and delta.

Map and globe skills will include locating the Netherlands in respect to our home community, to Labrador, to the continent of Europe, to the Atlantic ocean, to the North sea, and to the equator. We shall learn to locate and identify the Rhine river, Amsterdam, Rotterdam, and delta. We shall use the terms "upstream" and "downstream" in connection with travel on the Rhine, and compare it with any river that is near by.

In our discussions we want to discover the truth about the Netherlands as it is today, and not over-

emphasize the peculiarities of customs that may be observed in some localities but are passing, especially during the last few years. We shall see that the world about us changes from time to time and that man's ways of living and working change also.

Suggested Problems for Discussion and Study

1. How have the people of the Netherlands turned a shallow sea into useful land?
2. How do the people use the new land? Why do they use it in this way?
3. What other kinds of work are important in the Netherlands? Why?
4. What do the water highways of the Netherlands mean to the people?
5. How is life in the Netherlands like life in your home community? How does it differ? Why?
6. How is family life there like ours? How is family life there different from ours? What would be a typical family meal? How do members of the family dress? Do they share the work of the home? What do these people do for fun?

Some Appropriate Activities

1. Is there a store in your community which sells flower bulbs? Find out if the bulbs come from the Netherlands. Have you ever bought cheese that was made in the Netherlands? What do you think the people of the Netherlands may buy from the United States?
2. Find out where in the United States many people from the Netherlands have settled. Examine names on the map. What industries do these newcomers carry on that are similar to those of the Netherlands?
3. Experiment to make cheese.
4. Making Pictures Talk. You have all seen talking pictures at the movies. But can you make pictures talk? Study the pictures in your text and reference books. Find the answers to these questions in the pictures. What in the pictures proves that some land in the Netherlands is lower than the sea? What shows how people have drained the land? What different kinds of transportation does one see in the Netherlands? Why are these kinds of transportation well suited to the Netherlands?

5. Serve a "Dutch" lunch at the school cafeteria, planned and served by the class. (If China is chosen, feature leafy vegetables, rice, and soy beans.)
6. Watch the World Map grow. Color the Netherlands on the outline map of the world. Show the location of Rotterdam and Amsterdam. Trace the shortest air journey from Labrador to the Netherlands. You will need to use the globe to help you.
7. How does the story of the Zuider Zee show that the world about us changes and that man's ways of living and working change, too? Ask your father or grandfather to tell you about changes that have taken place in your community. Do you see any changes in your landscape?

III. How the People in Switzerland Have Used Their Landlocked Mountainous Country

(Illustrative of mountainous countries)

Switzerland is a country of high mountains without a seacoast. Valleys, lakes, forests, rivers, waterfalls, and glaciers help make it a scenic land. In this mountainous land winters are cold and summers cool.

Some of the people of Switzerland make a living by raising dairy herds. Some work in factories. Some engage in transportation and trade. Others take care of visitors who come to Switzerland.

Points for Special Emphasis

We shall locate Switzerland on the map and globe in respect to our homeland and other lands we have visited and in respect to the equator. We shall review certain map symbols and teach the map symbols for mountain, railroad, and tunnel if they have not been taught before. We shall give particular attention to new vocabulary words like tunnel, alp, and glacier. In our discussion of the mountain farmer we shall show how the members of a community are dependent upon one another.

We read from pictures and books about the kinds of work carried on, how the work is carried on; how the people live and travel, the kinds of homes they live in and what the natural landscape is like. In Switzerland the type of land has a definite influence upon the lives of the people.

Suggested Problems for Discussion and Study

1. What changes in scenery does a traveler see as he travels in Switzerland from a low valley to a high mountain peak? Why does the scenery change?
2. How does a Swiss mountain farmer depend upon valley land and high pastures for his living?
3. How do the Swiss people use the forest lands?
4. What have waterfalls meant to the people?
5. Why do visitors enjoy traveling in Switzerland?
6. What are the elements of climate and food which cause Switzerland to be called a "healthy" land?
7. How is their family life like ours? How is their family life different from ours? What would be a typical family meal? How do members of the family dress? Do they share the work of the home? What do these people do for fun?
8. How do the pictures of Switzerland in your text and reference books fit into your home landscape? There is little chance that a picture of a Swiss scene will fit exactly into your landscape. But there may be items in a picture of Switzerland that you, too, can see near your home. What are some of these items which are alike? Why can you see some things in both lands?

Some Appropriate Activities

1. Find out how to carve an animal or figure out of soft wood.
2. How long is a day? Perhaps you will answer, "A day is twenty-four hours long." Of course, it is. Have you noticed the hours of daylight are longer in summer than in winter? It is the daylight which we usually refer to as a day. In Switzerland summer days are about fifteen hours long and winter days about nine hours long. Use a reference book to discover the length of the days in winter and summer at your home. In Labrador. In the Netherlands. Make a chart to show the comparisons.
3. Watch the World Map grow. Don't forget to bring your world map up to date.
4. Continue all activities such as keeping bulletin board "active," scrapbooks, charts, friezes, etc.

5. Make a table relief map, using a simple but fairly accurate scale so that children may get better idea of comparative sizes and heights, and may visualize vocabulary meanings.

IV. How the People of Mediterranean Lands Have Fitted Their Ways of Living to Lands of Sunshine, Summer Drought, and Winter Rains

(Life in a village of Spain, Italy, or Greece may be selected)

Farmers in Mediterranean lands are kept busy throughout the year but their work varies with the season. Fall is the time when fruit crops are harvested and wheat is planted. Fruit trees and vineyards are pruned in winter and the soil is cultivated. In May and June wheat is harvested. The crops must be irrigated during the dry summer. At all seasons the herds of goats and sheep need attention and many other activities keep the farmer busy.

Tourists like to visit Mediterranean lands during the mild winter. The occasional winter showers turn the landscape into a sea of green vegetation dotted with bright-colored flowers. The Mediterranean Sea provides a highway for trading vessels and a source of fish for the fishermen.

Points for Special Emphasis

In the discussion of the tourist trade the children will gain some insight into how events of the past influence our lives today, although this should not turn into a detailed study of ancient history. We locate these lands as we have located the other areas studied, read directions from the map, and strengthen knowledge of map signs and ability to read pictures. "Strait" and "peninsula" are probably the only new map signs to be taught.

The Mediterranean as an inland sea which separates Europe and Africa, is a concept of importance. The sunny slopes, the many harbors, the proximity of the shore and water, the fruits grown, the ancient customs of the people will all interest the children and help them to understand increasingly about mankind's ways of living.

Suggested Problems for Discussion and Study

1. How is daily life in a Mediterranean farm home related to weather and climate?

2. How do the farmers of Mediterranean lands fit their work to the seasons?
3. How does factory work in Mediterranean lands depend upon farm work?
4. How do the people depend upon the Mediterranean Sea?
5. How do "wonders of the past" bring tourists to these lands and make work for the people?
6. What would be a typical family meal? How do the family members dress? What do these people do for fun? Songs, dances?

Some Appropriate Activities

1. Collect products of Mediterranean lands. Attach a small card to each product on which you have written a short paragraph explaining why the product is raised or made in a Mediterranean land.
2. Watch the World Map grow. What will you add to the world map now?
3. Majolica Ware is a typical product of many of these people. Children can experiment in using Majolica glaze on their pottery and tiles.
4. Continue activities from previous units.

V. Why the People in the Desert Live as Nomads and Oasis Farmers

(The Tigris-Euphrates valleys or the Nile may be used to develop this problem)

The shepherds of the desert must move frequently in order to find pastures for their herds. Pastures are scanty and scattered in the desert partly because rain seldom falls.

Most of the people live along the rivers where the supply of water for irrigation and the year-round growing season make it possible to raise two crops on a plot of land in a year.

Points for Special Emphasis

Many new vocabulary terms are introduced in this unit. Since the landscape is quite different from landscapes in Pennsylvania we shall use pictures to develop correct imagery. Oasis, dam, and cataract are a few of the new terms. "Cataract" is no doubt the only new map symbol to be taught.

Has each of the units thus far helped develop the idea that people must sell goods or crops in

order to buy things which they cannot find or produce in their own area?

Be sure to locate the river and the desert in respect to the home community, to other lands we have studied, to important water bodies, and to the equator.

Suggested Problems for Discussion and Study

1. Why are the desert people called "the people of the tent"?
2. How does the winter season differ from the summer season? Why?
3. What crops do farmers along the river raise? Why?
4. How is home life along the river different from home life on the desert? How are they alike? Why are there differences and likenesses?
5. How is their family life like ours? How is their family life different from ours? What would be a typical family meal? How do members of the family dress? Do they share the work of the home? What do these people do for fun?
6. What other kinds of work are carried on in the land of the river? Why?
7. How are the nomads and the oases farmers dependent upon each other?
8. Why does the scenery change as one travels upstream on the river?

Some Appropriate Activities

1. Making Maps Talk. You have learned how to make pictures talk. Now we shall make the map tell a story. Locate Cairo and Lake Victoria on the map. Which is at the source of the Nile River? Which at the mouth? If one travels from Cairo to Lake Victoria, is he traveling downstream or upstream? In what general direction does the Nile flow? How does the map show that the Nile flows from high land to low land?
2. Watch the World Map grow. What shall we show on our world map now? Since we left the Netherlands have we been traveling away from or toward the equator? How does the length of summer change as one travels toward the equator?

3. How long is the summer day in Cairo? The winter day? Add these data to the chart you made when studying Switzerland. How does the length of the summer day change as one travels toward the equator? The winter day?
4. Continue cumulative charts, scrapbooks, etc., from other units.

VI. How People Fit Their Ways of Living to a Hot, Rainy Land Covered with Dense Forest

(Amazonia, the Congo, or New Guinea may be selected as an example of this type of region)

On lowlands near the equator hot, rainy weather continues throughout the year. Forests grow luxuriantly. There are large river systems. The people use lightweight materials in building their houses. They never need wear warm clothing as we do. They raise bananas, cassava or manioc, and vegetables in small clearings in the forest. They hunt and fish. The rivers are the main highways of the land because travel through a dense forest is difficult. Men from other regions have come here to trade and to establish plantations.

Points for Special Emphasis

While traveling through a hot, rainy land we discover that the noon sun is never far from overhead. Sometimes we see the noon sun in the northern sky and sometimes in the southern sky. Twice each year we can point directly overhead to the noon sun. The path of the sun in the sky explains why it is always summer on lowlands near the equator.

We locate this area on the world map in relation to the lands we have visited, to our own land, and in relation to the water bodies we have crossed.

Tributaries, sand bars, and tropical forest are probably new vocabulary terms. There will be other new words, too. We must discover what each means, find pictures to illustrate each, and learn to use the new words correctly.

Suggested Problems for Discussion and Study

1. How is community life in a hot, wet land like community life in our State? How unlike?
2. How does education help native boys and

girls to become useful citizens of their communities?

3. How do the natives use the forests and the river? Why do they use them in these ways?
4. How are the people's ways of living fitted to the kind of land?
5. Why is it always summer on lowlands near the equator?
6. What changes are taking place in this land?
7. How is this people's family life like ours? How is their family life different from ours? What would be a typical family meal? How do members of the family dress? Do they share the work of the home? What do these people do for fun?

Some Appropriate Activities

1. Watch the newspaper for news items which show that changes are taking place in this land.
2. Watch the World Map grow. Add your journey to the hot, rainy land to the world map record.
3. Have fun experimenting and making baskets, bowls, drums, and necklaces such as the natives make, but use materials from nature or those which are readily available from the children's own environment. Elaborate and expensive outfits are not recommended. Remember bowls must be made to hold something to eat or drink or to store grains or water; that one must be able to beat the drum and get the right sound.
4. Continue cumulative scrapbooks, charts, etc., from other units.

VII. Why People in Northern Australia Raise Bananas and Sugar Cane While People in Southern Australia Raise Wheat and Herds of Cattle

Northern Australia is so near the equator that the weather is hot the year round. Bananas and sugar cane are important crops.

Most of the people prefer to live in the southern part because the climate makes it more comfortable. The vast grasslands help make southern Australia a land of cattle and sheep. Wheat is an important farm crop. Minerals are produced and factory goods are made. Trade and transportation are important kinds of work.

Much of Australia is an empty land because it is so dry.

Points for Special Emphasis

We have crossed the equator in our trip to Australia and our journey in Australia takes us farther from the equator. We discover that the seasons in Australia are the opposites of our seasons. We shall see that the summer season becomes shorter and cooler as we travel south from the equator and that the length of daylight changes, too.

A little of Australia's history will be interesting; its relation to Great Britain and its place in World War II. However, only what is needed to understand the uses that are made of Australia's resources should be given.

Suggested Problems for Discussion and Study

1. Why is northern Australia called the "sugar bowl"?
2. How is working on cattle and sheep stations related to climate, surface, and vegetation?
3. Why is much of Australia an empty land?
4. What farm scenes in southern Australia remind us of scenes in other lands we have visited? Why is the scenery similar?
5. What other kinds of work are important in Australia? Where? Why?
6. How is the people's family life like ours? How is their family life different from ours? What would be a typical family meal? How do members of the family dress? Do they share the work of the home? What do these people do for fun?

Some Appropriate Activities

1. Use large sheets of wrapping paper to make a calendar. Label each sheet January, February, etc. Draw pictures to show scenes of work and play in the home community and in southern Australia for each of the months. For example, one scene may show children on the day school opens in the local community. Of course, this scene fits the month of September. A similar scene in southern Australia is shown on the March calendar. Ex-

plain why many of our work and play activities are at opposite times of the year.

2. Watch the World Map grow. Bring the world map up to date.
3. Add northern and southern Australia to the length-of-day chart, from previous units.
4. If you can find Australian stories or have had brothers there during the World War, make a chart of different words that we use for the same thing, as "ranch" and "station."
5. Continue cumulative charts, etc., which were started in previous units.

VIII. Why Only Explorers Have Visited the Polar Regions

In order to round out these concepts: The earth is a sphere; summer is shorter and winter is longer as one travels away from the equator; summer days are longer and winter days are shorter as one travels away from the equator; we shall study about an explorer's work in each of the polar regions.

Points for Special Emphasis

We add the symbols for North and South Poles, the Tropics, and the Circles to the map and globe and show the significance of these sun lines. For example, between the Tropics the noon sun is always high in the sky.

Do not use the terms Torrid, Temperate, and Frigid Zones for the zones are not heat zones, but light zones. For example, poleward from the circles there is a period of continuous light for many days.

Suggested Problems for Discussion and Study

1. At what season of the year did the explorer make his trip? Why?
2. What plans for the trip did he make? Why?
3. What route of travel did he use? Why?
4. What changes did he note along his route of travel? Why?
5. What discoveries did he make?
6. How long did it take Peary to reach the North Pole? How long would it take you to reach the North Pole by airplane? Why do people say the world is growing smaller?

Some Appropriate Activities

1. Use pictures, diagrams, and maps to show the likeness and differences of the Polar Regions.
2. Summarize the work of all this large unit on "How People Live and Work in Other Lands" by bringing up to date all activities which have been carried on throughout them. Explain the significance of each activity.

NEIGHBORS IN SPACE

Children of the elementary school have already made observations about the form of the earth and its relation to the other bodies in space that they can see at night or during the day. Usually they have asked questions about these objects and have been given answers which have been provocative for what has been left unsaid or for the apparent conflict between the answer and what can be seen. For example, children have usually been told that the earth is round. However, this produces a question in their minds because they can see that it does not appear to be so. Perhaps they have been told that the stars are extremely large, yet they appear to be mere pin points of light; or that the moon does not shine by its own light, yet they can see it shining in the sky above them.

While it might seem that such a study is too abstract for the elementary child, it must be remembered that these objects are part of the child's surroundings because they are within his sensory experience. In other words, he can go out and see them. The adult knows, however, that they are not as they seem.

Such a study has many possibilities. It provides an excellent opportunity to emphasize the proper place of authorities. Care must be taken when teaching the motions of the earth lest it become mere repetition of the words of the teacher. The activities should be such that the child is encouraged to observe actual phenomena. Yet it is difficult to show a child that the earth actually turns or that it moves about the sun. Such observations as are made should arouse questions that lead to investigation of many books rather than repeating a statement from one.

Such a study is rich in esthetic implications. The beauty of the sky by day or night cannot be denied; indeed it should be pointed out if it is not felt. There need be no excuse for teaching about

beautiful things. The role of the sun as a source of energy for food-making in plants, how running water depends upon energy from the sun, why we sometimes speak of coal as "buried sunshine" might all be introduced at this time.

This unit obviously calls for careful planning. The time element involved is important. For example, the length of shadows taken over a period of several months may mean little to the child unless some careful and conspicuous record is kept. Many of the activities might be continuous throughout the year. Only by careful checking of learning outcomes from time to time, will the objectives be realized.

Some Appropriate Activities

1. Construct a "pointer" to point out the position of the sun, moon, and stars.
2. Determine the change in length of shadows during the day or even during the year.
3. Locate the North Star as an aid in learning directions. Look through a telescope if one can be procured.
4. In preparation for the explanation of the causes of the phases of the moon, make simple charts showing the position of the earth, moon, and sun.
5. Read and discuss some of the more interesting stories about the mythology of the stars, although it must be pointed out that these stories were written by people in a different part of the world under different climatic conditions.
6. Help for the teacher might be secured from some amateur astronomer in the community, or perhaps from a visit to an observatory.

HOLIDAYS AND SPECIAL DAYS¹

What are the holidays on which we celebrate the lives of Pennsylvanians?

With the children exploring their own State, they will be interested particularly in the holidays founded by Pennsylvanians or celebrating the birth-days of people of their native state.

The celebration of Pennsylvania Week is becoming increasingly more important throughout the Commonwealth. It provides excellent opportunities for conservation considerations. It has interest roots in bird lore, nature study, and forest preservation. We want our children to grow up proud

¹ See pages 156-157 and 159-161.

of their State, but we also want them to realize that they have a responsibility in making it a better place in which to live.

The birthday of Franklin recalls his many social and scientific contributions. The gamut of his achievements is so wide that children rarely exhaust all the interesting phases.

Miss Annie Jarvis' idea of observing Mother's Day is of contemporary origin. The emphasis here is on the meaning of the day. Children love an opportunity to make gifts for their mothers. Holidays are an opportunity for motivated consideration of real projects.

Suggested Problems for Discussion and Study

1. Why do we celebrate Pennsylvania Week? Whose birthday does it commemorate? What

are the particular resources of our State? What makes our State such a fine place in which to live? Is our State today the Commonwealth which William Penn envisioned?

2. What made Franklin a true statesman? How did his inventions make life better and easier for other people? How did Franklin make the most of his opportunities when he was a poor young man?
3. Why should we celebrate Mother's Day? How can we honor our mothers? Why did Miss Jarvis start Mother's Day? What problems did she have in making it a nationally celebrated holiday?

In celebrating holidays in this grade we should try to develop in the children an appreciation of the self-sacrifice made by these people for us.

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NOTES FOR BULLETIN 233-C

Grade V

INTRODUCTION

THE IDEA of an ever-expanding community has been developed from Kindergarten through Grade IV. The fifth-grade child is ready to gain a knowledge of his whole homeland and to fit his homeland into the initial world understanding attained in Grade IV. In order to do this he must study the historical backgrounds of our nation, the natural backgrounds which have controlled and still do control to a great extent, what we do and are in the United States, and the advances in scientific and technological knowledge which have affected us. Children need to understand cause-and-effect relationships, the constant elements of interaction and change, and the growth of our ways of living.

Through a study of the units included in this grade, the child will come to realize that where people live in the United States today, the kinds of work carried on, and the standard of living are explained in part by the knowledges and skills of the people and in part by their natural environment. He will understand why ways of living in the scattered lands of the United States differ in some respects from that in the United States proper, and why these outlying areas of the United States are valuable parts of our country.

He will understand why and how Canada's history parallels that of the United States, why work activities in southern Canada are similar to those found in northern United States, and he will begin to understand why we have such friendly relations with Canada.

He will begin to build new world understandings—that the world is made up of “human-use” regions¹ and that the “human-use” regions are interdependent. He will begin to realize that people with many different kinds of backgrounds have contributed and are still contributing their specific traditions and skills to the growth of our country.

The units in this grade are so arranged as to develop an awareness that our country has expanded—it has been growing over a period of three hundred years—and that our way of living has changed and improved due in part to our scientific achievements and in part to our wealth in natural resources. Therefore within each unit the history, geography, and related science of that area are included. This will cause the children to get the sweep of events from earlier times to now and will emphasize growth, change, and development.

Some teachers may wish, at the end of the year, to spend a week or two in reviewing or looking at these fields again from a new point of view. This may be done when the teacher believes it will be fruitful of understanding for her group, by classifying events from all the unit

¹ A human-use region is an area in which certain work activities are outstanding because of the natural environment. Human-use regions cross state and national boundaries. An example is the *spring wheat belt* which includes states of the United States and certain provinces of Canada.



We Learn Good Citizenship by Working Together

areas in general chronological order, or by taking such a topic as communication and tracing its growth, or by developing product maps from south to north or north to south, or by other devices by which the children will look at the ideas they have gleaned during the year from a new point of view in a different organizational pattern.

We realize that some teachers prefer to present units in order of difficulty. Others prefer to introduce and teach a unit when some event reported in the newspaper or when some experience in the classroom leads naturally into the study. Each teacher should arrange the year's units to her satisfaction both as to order and length of time, with the approval of her principal, supervisor, or superintendent.

The science activities which should be included in every unit, are given on pages 219-220. Each teacher should constantly refer to them. She should introduce one or more early in the year as a natural outgrowth of daily living in the classroom or as the unit shows particular relationship. One kind of science activity may be completed in a class period, while another type of activity, as the weather map, may be continuously carried on throughout the school term. Interest in and constant use of an activity will largely determine the degree to which understanding is developed.

APPROPRIATE SCIENCE PROBLEMS AND ACTIVITIES TO BE USED CONCURRENTLY AS RELATED WITH ALL FIFTH GRADE UNITS

Most of the following list of suggested activities will be used in logical and sensible correlation during the year. For example, when studying the Northeast (of which Pennsylvania is a part) and the far West there will be much talk of recreation areas, National and State Parks and Forests—hence conservation, fire protection, wildlife, game laws, stream pollution.

In studying any area, crop pests, birds and their uses, migration of birds will be clearly related. Such a study might well begin in the fall, by local observation, and be picked up and added to from time to time throughout the whole year.

As the various sections of North America are studied, the entire year will be full of opportunities to study soils, land formation, rocks and minerals. These, too, should thread all the units.

Machines are used everywhere and are of paramount importance. Simple mechanical workings should be understood and hence studied and discussed as the various types of machines are used, or invented.

Make cumulative charts or pictorial maps which carry on throughout the year and to which items are added week by week, as they are developed. Such charts might be on minerals, kinds of rock, animal life, etc.

Organize a few days' work which will pull together and reemphasize learnings around central topics. The relationships which have been brought out in units earlier in the year can be reviewed, and deeper and broader understandings can be expected from the units which will follow.

Examples:

- Great Inventions Which Have Helped Our Nation Grow
- Electricity and Magnetism (suggested development, page 220)
- How Does Man Enjoy His Natural Surroundings? (Suggested development, page 220)

GREAT INVENTIONS WHICH HAVE HELPED OUR NATION GROW

Science Aspects

What machines have helped our nation?
What is energy?
What kinds of energy does man use?
How is energy transformed from one form to another?
What are the simple machines that man uses?
How do machines make man's work easier?
How are simple machines combined to form other machines?
How can we make machines work more efficiently?
How are things in motion stopped?
What kind of energy comes from the sun?

Emphases

Energy can take various forms—heat, light, motion, chemical energy, atomic energy.
Energy can be transferred from heat to motion, from electricity to heat, from heat to electricity, etc.
It requires energy to move things.
Machines enable us to use energy to move things more easily.
The lever, wheel, axle, and inclined plane are the simplest machines.
Some machines help us to secure food (tractor, drill, plow, combine); others make cloth for our clothing, etc.
Things in motion tend to stay moving.
It takes more to start an object to move than it does to keep it going once started.
The steam engine changed man's way of living.
Man is finding other kinds of energy.
Running water is a source of energy.

Activities

Pull a block of wood along a table with a rubber band to see how far the rubber band stretches. Put wheels on the block of wood and notice how far the rubber band stretches.
Change the position of a seesaw to show how a lighter person can lift a heavier person.
With the steam from a teakettle, show how a pin wheel can be turned, thus converting heat energy into motion energy.
Bring a bicycle into the classroom to see how simple machines combine to make a complex machine.
Have a demonstration to show how to care for a bicycle.
Examine tools to see how many use levers, wheels, gears, axles, and inclined planes.
Examine an automobile to locate the motor, brakes, carburetor, spark plugs, and other major parts.
Visit a factory to see how machines help man produce things he needs.
Examine an airplane (real or model) to learn how it is made and what simple machines are used in its construction.
Discuss the different kinds of airplanes, considering how they are propelled.
Bring toy models of machines to school, and demonstrate how they work.
Make simple models of airplanes of different types.
Visit a farm implement store to learn of the different machines that farmers use.
Make a simple motor (For a child who is particularly able).
Make a model of a simple motor with block of wood, nails, and piece of tin can.

ELECTRICITY AND MAGNETISM

Science Aspects

Many of our great inventions use magnetism and electricity.
 What are the different kinds of magnets? (permanent, temporary)
 What machines use magnetism?
 What inventions use magnetism?
 Where do we get electricity?
 What inventions use electricity?
 What kind of materials carry electricity?
 What kind of materials will not carry electricity?
 How does electricity benefit man?
 How does electricity travel?
 How do we control electricity?
 How do we protect ourselves from electricity?

Emphases

Learn the names of some inventions that use magnetism.
 Some materials hold magnetism for a long time, and others for a short time.
 Magnets pick up things which contain iron.
 Magnets have a north pole and a south pole.
 South and north poles attract each other.
 Two south poles or two north poles repel each other.
 Learn some of the names of inventions that use electricity.
 Electricity can come from chemicals and generators and from rubbing substances together.
 Metals are good conductors of electricity, non-metals are poor conductors.
 Non-conductors of electricity can be used for insulation.
 Electricity travels through a circuit.
 Switches make a gap in the circuit (break the circuit).
 Man protects himself from electricity by covering wires with materials that do not carry electricity.

Activities

Short circuit a dry cell to show how the electrical energy is changed to heat energy.
 Make a temporary magnet by wrapping 25 turns of insulated wire around a nail or spike and connect to a dry cell.
 With a permanent or temporary magnet, find out what kind of objects a magnet will attract.
 Make a compass by floating a magnetized needle on a piece of waxed paper in a glass or dish of water.
 See what substances can be magnetized by rubbing them on a permanent magnet.
 Make a simple telegraph set (for gifted child).
 Take apart or repair connections to plugs and sockets.
 Take apart junked electrical equipment to see how things are made.

HOW DOES MAN ENJOY HIS NATURAL SURROUNDINGS

Aspects

Why must man play as well as work?
 Where does man like to hike, hunt, fish, or picnic?
 How can we insure that such areas will not be destroyed?
 What have our local and national governments done to protect the natural areas where man plays?
 What are some of the plants that man likes to see left in the woods for all to enjoy?
 What are some of the animals that man likes to see or hunt?

What can we do about developing the natural surroundings in our communities?
 How do we care for the natural surroundings that we now have?

Emphases

What are names of the places in the community and State which are important recreational areas?
 Recognize some of the common birds that appear in the community and identify their songs.
 What animals are found in streams and lakes?
 Man works best when he has periods of change.
 Animals depend upon good woodland cover and food.
 Plants depend upon the right light, soil, and moisture for existence.
 Man may destroy areas or develop them into better places for his enjoyment.
 Some plants and animals may become too abundant for their own or man's best interests.

Activities

Visit attractive areas in your communities where people go to picnic, hike, fish, or hunt.
 Visit unattractive woodland areas that are poorly cared for, and make plans to improve them.
 If possible, make some improvements in a small natural area, such as cleaning up refuse, planting trees or shrubs.
 Study the game and fishing laws to see how man has tried to save these animals so that they will continue to be abundant.
 Have a demonstration on how to plant trees.
 Plant some area with trees suitable to that region.
 Examine some streams in your area to see how they can be improved.
 Follow along a stream to learn how it becomes polluted.
 Collect samples of water from clear and muddy streams.
 Boil the water away to see how much soil is carried away by clear and muddy streams.
 Visit a wooded area to learn the names of some of the wild flowers there—particularly the ones that need protection.
 Make a list of the birds as they come back in the spring.
 Learn the names of some birds in your community and their songs.
 Observe birds to see how they may be beneficial or harmful to man.
 Watch a robin feed its young in the nest and estimate the quantity of food required—number of worms, etc. Who feeds the young? How much work does it take? How many working hours does it take?
 Secure maps of the State and county showing recreational areas.
 What areas are provided in your community for children to play?
 Study procedures to follow in controlling brush fires.
 Visit a burned-over woods or field to observe birds, flowers, and other forms of wild life.
 Examine charts or models of a poisonous snake to see how its poison apparatus works.
 Visit a zoo where native wild animals are on display.
 Have a forest ranger talk to the class about the care of forests.
 Keep harmless snakes, turtles, salamanders, frogs, toads, and tadpoles in the classroom in suitable cages and containers; and care for them.
 Model animals, birds, people at work or play in order to show something you are thinking about them and their activities.

HOW TRADE AND TRAVEL LEAD TO DISCOVERY AND EXPLORATION

Since earliest days mankind has moved about. His reasons for exploring his world are wide and varied. Even today great movements are taking place in the shifting of populations and new places on the globe being explored. To understand such movements one needs some historical perspective. This cannot be developed entirely in the elementary grades, but a considerable widening of basic ideas can be brought about by a judicious study of the period of time when America was discovered and explored.

Trade is a powerful incentive for establishing new routes between countries. The trade that motivates the new air line or trucking routes of today is basically the same incentive that prompted the making of new trade routes centuries ago. (A good background for this unit has been established through units of previous years and some understanding already exists. The fifth grade teacher will review these learnings with the children and apply them in this new relationship.) What trade goes on between the farmers and the city people? What products does our community trade in order to get all the things we need? What do the people we studied in fourth grade trade for goods they need? What kinds of things do they want?

Changes in the wants of people follow new trading experiences. For example, the people of the United States have learned to use coffee because of our trade relations. The people of England drink more tea because many of their early trade relations were with tea-raising countries. During the last few years this country has learned to want many new products because of trade. We have, for example, learned to want radios, nylon, telephones, and family cars. The people of the fifteenth century had no refrigeration. They cooked over open fires and most people did not know vegetables and fruits as we do. In order to make their foods palatable they used spices. Their homespun cloth was coarse. Silks were highly desired. Early traders had brought spices and silks and other goods from the East to western Europe. People developed a taste, a *want* for them.

Exploration today is done by airplane, ship, automobile, and other modern means of transportation. Magazines and newspapers show half-track trucks exploring deserts, airplanes used at the South Pole,

with supply ships standing by. Exploration of the fifteenth century was done mostly by water. Why? What effect did this have upon colonies that were founded where trade routes were established? Where cities grew up?

Points for Special Emphasis

In this unit we deepen understanding that people want to exchange goods with one another, that the desire for trade encourages man to look for shorter routes between lands and faster means of transportation, that growth of population centers develops at communication and transportation centers, and that shorter routes and faster transportation make the world seem smaller.

We shall locate on maps and globes the routes of explorers. We learn why some people who lived long ago thought the earth was round and how this idea was proved. We find that people of earlier times learned to tell directions by using the compass and the North Star. We learn how east-west direction lines and north-south direction lines are shown on maps and globes and how these direction lines are used today. We discover that Columbus had a fairly good instrument to tell how far north of the equator his ships were, but he had no good way of finding out how far west of Spain his ships were.

We learn how settlements were made and how communities grew up near sea and river ports in the days when water transportation predominated, how later other communities developed as a result of railway transportation. We can discuss ways the development of air transportation has affected and will further affect exploration and development of communities in the future.

We learn how people lived on board ship in the days of Columbus—what they ate, how they fared. We contrast this with today.

We learn what kinds of things could be safely stored for long travels then, and why. What other kinds of things can be safely shipped today? Why?

We give as much background to this period as the children seem able to understand and to associate with things in their own lives. We develop at least one outstanding explorer from each of the following nations—England, France, Spain, and the Netherlands.

Selection should be made from such a list as the following, with other names added as they seem appropriate: DeSoto, LaSalle, Cabot, Ponce de Leon, Champlain, Cartier, Drake, Hudson, Raleigh.

We begin to understand why certain peoples still live in certain parts of the "New World" and how their influence is felt today—the Spanish influence in our Southwest and Florida, the French in New Orleans and Canada, the English on the seacoast, the Dutch in New York.

Problems for Discussion and Study

1. Who are the people who now live in our country? Our State? Whence did they come? (U. S. Census Reports) Why did they come here?
2. Why do people today move from state to state or place to place? Do you have friends or relatives who have moved here from other places or from here to other places? Why do people move about? (Personal and community interviews)
3. What is the picture of immigration to the United States today? Who are the people coming here now? Why do they come? (U. S. Census Reports)
4. Are people still exploring new parts of the earth? Why? (Current Events)
5. Do nations, as well as individual people, have reasons for exploring new regions? Why? (Current Events)
6. How was America discovered?
7. Why did the Europeans want to find new trade routes to the East?
8. Why did the people of Europe want trade with the Far East?
9. How did Columbus carry out his plan?
10. How is a trip across the Atlantic today like that of Columbus? How is it very different from Columbus' trip? How did the Northeast Trade Winds help Columbus?
11. How was America explored?
12. Who followed the explorers?
13. What observations can we make to show us the earth is round? Can you demonstrate this? What led wise men who lived long ago to believe that the earth was round?
14. Columbus' ships could sail from eight to fifteen miles an hour. The Queen Mary in August, 1938, averaged 30.7 miles per hour. Find out how to account for the difference in speed. Find out how long a trans-Atlantic plane flight is. Why does speed make people say the world is shrinking?
15. Why did the steady Northeast Trade Winds frighten Columbus' sailors?
16. With what instruments are modern trans-Atlantic planes equipped which help the pilots steer a true course? How do the weather stations of the North Atlantic help them?

Some Appropriate Activities

1. Use a piece of string on a globe to measure the distance traveled by Columbus from Spain to San Salvador. Did Columbus use the shortest route between the two places? Why, or why not?
2. What kind of weather record is the class going to keep this year? Write the Weather Bureau, Washington 25, D. C., for a sample copy of a daily weather map. Study the symbols used by the Weather Bureau and then decide on ones suitable for the class record. Add the

speed of the wind to the daily weather record. You can find the Beaufort Scale for reading wind speed in the encyclopedia.

3. Can you find a news item about a present-day explorer? What area is he exploring? What will his work add to our knowledge of the globe?
4. Experiment and make a simple compass that can be used in telling direction.
5. Find out how to make a simple wind velocity instrument and a simple barometer that will indicate air pressure. Both of these can be made from "discarded" materials by girls and boys who are properly guided by the teacher to see and solve the simple problems involved.
6. What part has the airplane played in Polar explorations? Report to the class.
7. Report on where the airplane is being used today to explore lands that are almost impossible to reach by land or water. (The search for the mountain higher than Mt. Everest, exploration of South American jungles.) Use recent *National Geographic* magazines.
8. Make graphs of comparative speeds of different kinds of travel.
9. Mark routes and places discussed on a map, adding to it as the unit progresses.
10. Prepare a map which shows what people of the fifteenth century thought the world was like.
11. Prepare simple dramatizations of dramatic episodes of this period.
12. Do related science activities, page 220.

HOW MAN LEARNS ABOUT HIS ENVIRONMENT

Sound and light are familiar topics to children and have many interesting possibilities that should be clarified in their minds. Essentially, sound and light are the means by which man learns about his environment, hence the title of this unit.

This unit should emphasize the care to be taken of the eye and ear, how each functions, and the nature of sound and light. Many interesting activities are possible. White light can be broken up into the colors of the spectrum with the aid of a prism, colors can be mixed to produce new colors, pictures can be taken with the camera and developed, thus making use of a previous unit on how substances are made. Magnifying glasses, field glasses, telescopes, eye glasses, and many other common objects will be better understood if this unit is successfully taught.

Experiments with sound should prove equally attractive. Various musical instruments should be brought to school and their modes of making sound observed; perhaps some musical instruments could be made, such as a xylophone. Sounds should be produced by vibrating glasses, forks, rubber bands, metal rods, drums, etc. Children who have had

¹ For explanation of "discarded" materials, see Chapter VII.

such experiences will be apt to look into the causes of common phenomena more readily.

1. What organs help man to learn about his environment?
2. What makes sound?
3. How do sounds differ from one another?
4. What instruments does man use for producing sound?
5. How is sound carried?
6. How does man use sounds?
7. How do we see things?
8. What makes different colors?
9. How does man use light?

Points for Special Emphasis

Eyes and ears aid man in learning about his environment.

Vibrations make sound

Sounds differ from each other in pitch and loudness

Learn the names of instruments that produce musical sounds

Sound is carried through air

We see things by reflected light

White light may be broken up into different colors

What are some light instruments that man uses?

WHY IS THE NORTHEASTERN PART OF OUR COUNTRY CALLED "THE CHANGING NORTHEAST"?

In this unit we want to show that it was natural for the first settlers to settle along our eastern coast because that coast was nearest their homes in Europe. The people used many things in their daily lives which they found in the new land. They learned how to adapt themselves to change. The new land could not offer them all they wanted, so they sold timber and fish abroad and bought the other things they needed. Trade developed naturally. The early settlers brought ideas of freedom to our country. They practiced democratic and co-operative living. We inherit these ideas and practices from them.

Each year changes took place in the ways of living and in the landscapes of the Northeast. Today about one-third of the people of our country live in the Northeast. Most of them are busy carrying on manufacturing, transportation, and trade.

Others are working on farms which supply the cities with fruits and vegetables. There are forest workers, fishermen, and miners, too.

The ways in which these people live and do their work is in part explained by what the earlier people of this region did, by the work of certain inventors and leaders, and by the natural features of the area: its surface, climate, location, soils, minerals, forests, and water resources.

Points for Special Emphasis

In this unit of the fifth-grade program the child will be asked to use more maps and more kinds of maps than ever before. Don't expect him to read the new maps. He doesn't know how. You will have to teach him to read surface maps (color-band maps), precipitation maps, and population and crop distribution maps (dot maps). The fourth-grade units give suggestions for teaching new map signs. Use those suggestions when possible. An easy way to teach the reading of surface maps is to draw a sample one of a purely imaginative land on the blackboard. Use only two colors: one for lowlands and one for highlands. Make a key. Teach the meaning of the "key" and show how it "unlocks" the map information for us. Use a picture showing lowland and highland to make the meaning of the key clearer. Be sure to have a river, a railroad, and a city or two in this imaginary land. These will be familiar map symbols with which to begin. A few questions will show how we are to use the new map: Which city is on the higher land? Where does the river flow over low land? We're now ready "to tackle" the map in the textbook. Teach the meaning of the key. Don't forget to use suitable pictures for illustrating the key. Use the map frequently to give practice in the skills.

Adapt this method to fit your needs when presenting the precipitation map. Be sure to teach the new vocabulary term—*precipitation*. We want the children to begin to think in terms of what this word means.

Are you using pictures and graphs? Suggestions on how to use these tools are included in the following units. Why not read over the entire fifth-grade program right now to see just how to go about using these tools?

What concepts of latitude will you develop? In Grade IV the children have learned to think about latitude in these terms: near the equator, near the North Pole, etc. Now they are ready to learn the vocabulary term—*latitude*, to read latitude in

degrees, to estimate distance from the equator (70 miles equals one degree of latitude), and to read directions by means of the parallels.

The beginning of sense of the lapse of time should be developed. The memorization of many dates is not recommended, but the general sweep of events, an understanding of the sequence of events should be stressed.

Conservation should also be stressed—how early settlers cleared the land, how they used other natural resources, how people gave too little thought to conservation during the centuries, and the necessity today for protection of soil, forest, fish, game, and minerals.

Suggested Problems for Discussion and Study

How shall we begin the unit work? One teacher arranged a display of pictures showing life in colonial days and life today in the Northeast. The class talked about what they saw in the pictures and made a chart like this:

IN COLONIAL DAYS	TODAY
People lived in crude cabins.	Many people live in tall apartment houses and skyscrapers, in larger, more comfortable homes.
Travel was slow and difficult. Covered wagons Horseback Sailboats Ox-carts Pack trains On foot	Travel is fast and easy. Automobiles Buses Ocean liners Trucks Trains Airplanes
Clothes were made at home.	Clothes are made in factories.
Shoes were made at home.	Shoes are made in factories.
Furniture was crude; it was mostly made at home.	Almost all furniture is made in factories.
Tools and utensils were made at home.	Tools and utensils are made in factories.
Few towns and most people lived on farms.	Many large cities and a movement of people to towns are to be noted.
The time might be called the "wood" age.	Today might be called the "steel" age.
Each family grew its own food.	Food is mostly bought; it is preserved by canning and freezing.
There was little "book" education.	There are many schools and colleges.
Communication was slow and difficult.	Communication is easy by radio, telephone, telegraph, newspapers, moving pictures, and improved mail service and television.

IN COLONIAL DAYS	TODAY
The most important industries were Farming Fishing Lumbering Shipbuilding	The most important industries are Manufacturing Commerce Specialized industries (Selection to be made by the teacher)
Home was the center of most activities.	The community is the center of most activities.

The chart work led the class to ask what caused these changes. The class was off to solving the main problems:

1. From what Old World countries did people come to America?
2. Why did people come to America and where did they settle?
3. Why did the Pilgrims come to the New World?
4. What was the voyage on the Mayflower like? What cargo did the Mayflower carry? Did the food keep? Did they bring animals?
5. How did the colonists live in the new land? (Food, homes, clothing, schools, recreation, standards of conduct)
6. What uses were made of bodies of water? Why?
7. What did Miles Standish and Governor Bradford do for the colony?
8. Why did the Pilgrims make a government?
9. Why did the Pilgrims have the first Thanksgiving?
10. Where did the Puritans settle? Why?
11. What work did Governor Winthrop do in the Massachusetts Bay Colony?
12. What was a town meeting? What is a town meeting like today?
13. How did life in a Puritan colony compare and contrast with life in an American town today?
14. Why were other colonies established in New England?
15. How did the people of the New Netherlands live?
16. Why did the New Netherlands colony become the New York colony?
17. In what ways was life in Maryland like life in the other colonies? How did it differ? Why?
18. Why did William Penn found a colony in the New World? (Much should be recalled from last year's work on Pennsylvania.)
19. Why did Penn's colony grow steadily?
20. Why do so many people now live in the Northeastern part of our country?
21. How did manufacturing begin and grow?
22. How did inventors and inventions increase manufacturing? What are some of these inventions and how do they work?
23. What is manufactured in the Northeast today?
24. Why did so many large cities grow up? Where?
25. What are the important large cities today, and why are they important?
26. Where does the Northeast get the raw materials for manufacturing?
27. Where does the Northeast get the power for manufacturing? What changes are there in sources of power from Colonial days? Why?
28. How has improved transportation helped manufacturing?
29. How has location on the Atlantic Coast helped in the development of the Northeast?

30. What natural routes to the interior helped in the development of the Northeast?
31. How has improved communication affected the lives of the people?
32. Why is this called the "machine age" or the "steel age"?
33. Where does this region get its food?
34. Do these people do any farming? What kinds? Why? Where?
35. What kind of land is there in the Northeast? Is there much difference in the various sections? Why?
36. What else do the people do besides manufacturing and farming? Why?
37. Are there any interesting places to visit or to spend vacations in this region? Why are there so many lakes?
38. How has the supply of natural resources changed from Colonial times to the present? What can be done about some of these resources?
39. What is the possible future of this region?
40. What answers to above questions should be qualified even today?
41. Summarize the problem: Why the northeastern part of our country is called "the changing Northeast."
42. A nation-wide railroad strike threatened the country in the spring of 1948. The National Association of Retail Grocers warned that New England would be hit hardest by the strike. What have you learned about New England which makes you know that this would be true?
43. You live in "the changing Northeast." What signs of change do you see in your home landscape? What have you learned about the Northeast which helps explain why people in your community live as they do?

Some Appropriate Activities

1. Make a collection of raw materials used in the Northeast. Display and label the raw materials on a table. Mount an outline map of the world on the wall above the table. Run a string from each raw material to the region where it is found.
2. Make a similar map for the Colonial period.
3. Collect samples, labels, or pictures of goods manufactured in the Northeast. Set up a display like the one described above, using a map of the Northeast. Indicate which of these are sold in our own stores for our use.
4. Collect advertisements of products made in the Northeast. Show on an outline map of the Northeast the place where each product is manufactured. Indicate those we use. What services must go into the price we pay?
5. Make a bar graph which will show that the Mayflower made the westward trip across the Atlantic in 63 days, that the Queen Mary's trip in August, 1938, was made in 3 days, 22 hours, and that commercial airlines now regularly make the trip in about 13 hours.
6. Let each child find a picture and prepare questions to ask his classmates. One example is given: A picture shows in the foreground a herd of dairy cows feeding in a fenced-in pasture. Beyond the pasture there are a large, well-built barn and a silo. The farmer is working in the fields near the barn. He is cutting green corn stalks and leaves. (Perhaps if you cannot find one picture with all these items, you may find two or three pictures which together show all these details.) These questions could be asked about the picture: What special kind of farming is suggested by the picture? Where in Northeastern United States may one see a scene like

this? At what time of year do you think the picture was taken? What suggests that winters here are cold? What do you think the farmer will do with the corn he is cutting? Why do you think so? What other feed crops may he raise? Is there anything in the picture which suggests that good roads and fast transportation help the farmer get his milk to market quickly?

7. What stories do pictures in your textbooks suggest to you?
8. Discover how to make a water wheel that will turn when placed under a stream of water. Find a way to show how water power can be transferred to mechanical power that does work.¹

WHY DID PEOPLE SETTLE IN THE SOUTH AND HOW HAVE MODERN MACHINES BUILT A "NEW SOUTH"?

Introduction

Today the people of our Southland are working together to build a "New South." The early settlers in the South raised crops which could be sold abroad and with these crops they bought things which they needed in their daily lives. They had Negro slaves to help them in their work. When it became safe to move westward and when the invention of certain power machines increased the demand for cotton, the plantation system spread rapidly throughout the South. The freeing of the slaves broke up the plantation system. The appearance of the boll weevil made farmers turn away from a one-crop system of farming. A new type of agriculture developed. Growing many kinds of food so people can have fruits and vegetables and keep cows and improve their diet is part of the plan.

Farming is still a leading occupation in the South and cotton is still a leading crop. There are other special crops raised, too. Sugar cane, rice, and citrus fruits are a few of these. These crops are raised partly because of the long-growing season, the abundant rain, and fertile soils. Forests still cover much of the South and an important lumbering industry is carried on. From the mines come coal, petroleum, iron, phosphate, and other minerals. The development of hydroelectric power has increased manufacturing.

Perhaps we can introduce this unit by planning an excursion to a near-by market or store where fruits and vegetables from the South are on sale. What plans shall we make for the excursion? What shall we try to discover at the market? What questions do we have for further investigation as a result of our excursion?

¹ The United States Department of Agriculture, Soil Conservation Service, Northeastern Region, Austin L. Patrick, Regional Conservator, Upper Darby, Pa., has a mimeographed leaflet of resource material, free, entitled *Soil Conservation in the Northeast*.

Points for Special Emphasis

The expression "cut down, wear out, and walk off" to describe a system of farming in the early South will appeal to the children. After discovering what it means, we can find pictures of what happens to land that is left without vegetation's cover. We can look for signs of erosion in our home landscape. We can study pictures to discover ways of checking erosion. Are means of checking erosion being used in our locality? Can we do anything about the erosion problems of our neighborhood?

We shall try to show in this unit of work that man's ways of living in a particular place change from time to time; that perhaps because of a new law, a new invention, or the depletion of a natural resource man makes changes in his way of life. In this unit we can show how people lived and worked on a cotton plantation of the 1850's and how different the pattern of living is today. There are still plantations in the South, but now tenant farmers rent 25 to 30 acres of land from the owner. They raise cotton and other crops on the land.

We shall show how the affairs of one part of a nation affect all parts, how we are all interdependent. We must be careful in our teaching that we do not give a wrong impression of what a term like "cotton belt" or "corn belt" means. We must not think of the cotton belt as a solid belt of cotton and nothing else but cotton, nor of the corn belt as a region where only corn is raised. Let us develop a balanced picture of an area by showing all man's major activities in that area.

Suggested Problems for Discussion and Study

1. Why did people settle in the South? Who were they?
2. Where was the first permanent English settlement in America made?
3. How was this colony established?
4. Why did the colonists have a hard time for a few years?
5. What happened then which helped the colony prosper?
6. Why do we say that the early tobacco planters used a "cut down, wear out, and walk off" system of farming? What effect has this system had on the South?
7. What kind of government was set up in Virginia?
8. Why do many American tourists visit Williamsburg each year?
9. Why were rice plantations established in the South?
10. Why did the rice industry and slavery grow and spread together? What effect did slavery have on the whole country?
11. Why did the rice lands once again become swamp-lands?

12. Why did cotton become the "King of Crops" in the South? What do we mean by a "one crop" system?
13. Why did the work of Eli Whitney and that of Andrew Jackson encourage southern planters to move west? What effect did it have on plantation life?
14. Describe a planter's trip west with his family and slaves.
15. How did the change from hand to machine labor in making cloth affect the South?
16. What was life on a colonial plantation of the South like?
17. What other kinds of farms were there in the South? Why?
18. Why has a new type of agriculture developed in the South?
19. How have men built a "New South" with modern machines? How are people still moving in and out of the South? Why? Who are they?
20. What can one see today in the landscapes of the South which the early planters did not see? (Study pictures to find items.) Find pictures or articles showing the use of airplanes on Southern plantations for laying fertilizer, crop-dusting, inspection of fields, of crops, surveying and seeding. Louisiana leads the nation in the many uses of planes for such work.
21. Why is cotton still "King of Crops" in the South?
22. How is the work on a cotton plantation today different from the work on the plantations of early times? What effect has science had on these ways of life?
23. What do we mean by diversified farming?
24. Why are there sugar plantations near the Gulf-coast of Louisiana?
25. Where is rice raised today? Why?
26. Where is tobacco an important crop? Why?
27. Why are citrus fruits Florida's most famous crop? What other crops are raised in Florida? Why?
28. What great manufacturing systems are developing in the South? Where? Why?
29. How does factory work in the South depend upon the farms?
30. What minerals are being mined in the South? Where are the mines?
31. How are the factory workers dependent upon the miners?
32. How has the development of hydroelectric power aided in the building of the "New South"?
33. How are the forests of the South being developed?
34. How have the climate, mountains, and seacoast helped man build famous playgrounds in the South?
35. What great cities have developed in the South? Why?
36. What contributions does the "New South" make to our country as a whole?
37. Summarize the main problem: What are the workers of the South doing in order to build a "New South"?

Some Appropriate Activities

1. *Make puzzles*
Example: Finish this puzzle so that the initial letters spell the chief crop of the South.
 , a seaport of South Carolina.
 , a fruit in Florida.
 , important crop in Kentucky.
 , product from pine tree.
 , a tributary of the Mississippi.
 , once upon a time a slave.

2. *Make and interpret graphs*

Problem 1

Of the ten leading lumber states, seven are in the South.

Draw ten blocks of equal size, color seven of them blue. Explain meaning.

Problem 2

Yellow pine forms one-fourth of all the lumber cut in the United States. Draw four blocks, color one green.

Problem 3

About one-third of the lumber cut in the United States in a recent year came from the Southeastern States. Color purple the lumber cut in the Southeastern states.

Problem 4

Less than one-third of all the land in the southern mixed-farming region is used for crops. Color red the land used for crops.

Problem 5

More than one-third of the wage earners of the country are engaged in agriculture. Draw nine men (stick figures) to show all the wage earners. Color purple those engaged in agriculture.

Problem 6

Nearly one-half of an annual cotton crop is exported. Draw ten bales to show our annual crop. Color brown the part exported.

Problem 7

The United States raises six-tenths of the world's cotton. Make and interpret a graph.

Problem 8

The United States has about three-twentieths of the world's cattle. Make and interpret a graph.

Problem 9

In many states of the South more than one-third of all the land used for crops is planted in cotton. Make and interpret a graph.

3. *Give special reports*

How limestone caves are made

Mammoth Cave

Why horses are raised in the Blue Grass Region

Skyline Drive and Tourists

Deep Sea Fishing

Alligator Farming

Sponge Fishing

How Peanuts are Raised and Used—Where do they fit into one food group you now know? How do you use them in the school cafeteria—compare cost and taste with butter as a spread for bread.

Historic Places in Virginia

What can be seen in Key West?

4. *Dramatize the story of the South*

a. A scene in early Jamestown or Williamsburg (read *The James*, by Blair Niles).

b. A scene where different workers are talking over plans for "the New South."

5. *Show the class four uncaptioned mounted pictures, of sugar cane, cotton, corn, and spring wheat at harvest time. What crop is shown in each picture? We are going to arrange these pictures in the order in which we would see them if we were to travel from north to south across the central part of our country. Which scene would we see farthest north, etc.? How can we explain the difference in crops from north to south in the United States?*6. *An item in the newspaper reports that cotton probably has more insect enemies than any other cultivated crop. The cotton crop is attacked in one way or another by more than one hundred species of insects. What problem must the cotton farmer solve? Find how the cotton farmer tries to control insect pests.*7. *Do related science activities, pages 219-220.*

WHY DID PEOPLE MOVE INTO THE AGRICULTURAL INTERIOR AND HOW DID THEY DEVELOP THIS REGION?

Introduction

Through the study of this problem the children discover why today the eastern part of the agricultural interior has a moderately large population. Many of these people make their living by raising grain crops which flourish in the hot, wet summer. The nature of the soil and the expanse of level land help make it possible to use machinery for the farm work. Grain farms are cattle and hog farms, too. There are many factories in this region. The farms supply many of the raw materials for the factories. Lumbering is carried on but is not so important today as it was in earlier times because the forests were cut down and not replanted. Mining is important in some areas. Some of the minerals are in danger of becoming exhausted.

The Great Plains are semi-arid and fairly level lands. Today there are large cattle ranches and irrigated farm lands here. This western part of the interior is not so densely populated as the eastern section of the interior.

Very early in our history pioneers began to push westward. The Appalachian Mountains were difficult to cross. In a few places there were lowland routes through the mountains. The first pioneers were interested in fur trade; lumbermen in many sections followed the fur traders; the farmers were the last to come to these lands, but they stayed and developed the new region.

The first trails to the interior were narrow—so narrow that only pack horses could be used for transportation. Later the trails became wider as more and more people used them and wagons could be used on the roads. A great canal was built to help people reach the interior and new and better boats were built to be used on the rivers.

The invention of machinery helped greatly in the development of the interior. The machines made it possible for one man to cultivate a great plot of farm land.

One of the best ways of learning is to visualize. A graph is an excellent visual aid and since the best way to teach a child to read a graph is to teach him to make one, why not introduce this unit by making a graph which will show the leading products of this section? Make graphs showing

the leading wheat, cattle, corn, and hog producing states. What questions are there as a result of the graph study?

Points for Special Emphasis

We have been talking about many different kinds of crops. Which ones do we know when we see them in the home landscape? Do we recognize crops seen in pictures? This is one of the new skills for Grade V.

In the primary grades the children talked about the shapes of buildings. Now we'll extend this concept. Are they beginning to associate steel manufacturing with landscapes (pictures) showing blast furnaces? What other types of manufacturing are they beginning to associate with specific shapes of buildings? Buildings where heavy steel products are made are low and spread out over a great space. Textile manufacturing is usually carried on in buildings of several stories.

What do the buildings on a farm tell them about a farmer and his work? What does a large well-built barn suggest to the child? a corn crib?

Man's use of science in farming and industry should be stressed. Much of the change in this section is due to the application of scientific knowledge.

The sequence, the sweep of growth is important. Change takes place, one event causes another. We depend greatly on the agricultural interior of our country. The children should see how and when it developed as it did.

There are diversified peoples in this section. What attracted them; where they came from; the customs they brought with them; how they live today; are all important. It is also important that a true picture of rural life be developed. Wealth and comfort and education are of as vital concern in these rural sections as they are in cities. There are "slums" in both urban and rural areas. City children, in particular, should not associate the country with "hicks."

Suggested Problems for Discussion and Study

1. Why did people want to move westward from the Atlantic coast?
2. By what routes did the pioneers move westward into the interior of our country?
3. Why did they use these particular routes?
4. Who were some of the leaders in this westward movement?
5. How did the earliest pioneers travel? Why?
6. Why did people want to move to the new lands?

7. When was the fur trade most important? Why? Why did it become less important?
8. Who followed the fur traders?
9. What effect did the fur trade have on the location of today's cities?
10. Why did lumbermen give way to farmers?
11. Why was corn the main food crop of the pioneers?
12. Why were the first settlers afraid of the prairie lands of the eastern interior?
13. Why did early pioneers not settle in the Great Plains?
14. What trouble with the Indians was encountered by the early settlers and how were the Indians subdued?
15. What really was the basic cause of most of the troubles with the Indians? (The Indians' communal ideas concerning land versus the newcomers' idea of personal ownership.)
16. Why did the Great Plains change from a land of buffalo herds to a land of fenced cattle pastures?
17. How did the pioneers live on the farms and in the villages?
18. What new forms of transportation were developed which made travel faster and easier?
19. What was travel on the Erie Canal like?
20. Describe a trip down the Ohio by flatboat.
21. What were early homes made of? Why?
22. What did the steamboat mean to the people of our interior?
23. What work did Cyrus McCormick do?
24. How did the invention of farm machinery change life on the farms?
25. What has the airplane contributed to farm life in the Plains States? Nebraska had more than 275 farmer plane owners in 1947. One farmer says that it formerly took ten men a full month to inspect his herds, but by air he can do it alone in a single day. Minnesota conservation officials last year planted a potential 32 million trees by air. Air delivery of machine parts prevented costly delay during last year's bumper wheat harvest in Kansas. *The Wall Street Journal*, March 2, 1948, reports that thousands of farmers in 34 states say the airplane is as essential as the reaper. Planes are used for four of the six major operations which go into the job of producing crops.
26. Why is the agricultural interior the greatest grain- and meat-producing region in the world?
27. How have man and nature worked together to develop the corn belt? It takes nature 50 years to reclaim a worn-out farm. Man with scientific knowledge can do it in five. Why?
28. What does the farmer mean when he says the weather is "good corn weather"?
29. How do the farmers work for larger yields of better corn?
30. Why is the corn belt also a beef, cattle, and hog belt?
31. Why is the dairy farm region near the northern edge of the corn belt?
32. How does the farmer of the interior use machines in his work?
33. How has man made use of the interior plains to produce bread for the industrial East?
34. What kinds of grain are raised in the interior? Why?
35. What other crops are important in the Central States? Where are they raised? Why?
36. What important minerals are mined in the interior?
37. Why are the cities of the interior a part of the great manufacturing belt of the United States?
38. What transportation routes link the interior plains with other sections of our country?
39. How does climate and soil make the Great Plains a natural grassland?

40. Why did vast ranches develop in this region?
41. What kind of farming is carried on in the Great Plains?
42. Why is soil and water conservation an important problem in the Great Plains?
43. What European countries supplied much of the ancestry of these people? Why were they attracted to this section?

Some Appropriate Activities

1. Plan an excursion to a near-by farm. How is this farmer's work like that of a farmer in the agricultural interior? How does it differ? Why are there likenesses and differences? (Contour and strip planting, terracing.)
2. Make a collection of corn and wheat products.
3. Visit a local flour mill or a bakery.
4. Making Maps Tell a Story—Find a map in a text or reference book which shows where spring wheat is grown in the United States. Name the states of the agricultural interior which produce the greatest quantities of spring wheat. Locate these states on a physical-political map of the North Central States. In what river valley are large amounts of spring wheat produced? What do you read about surface from the physical-political map? What do you read about the latitude of the spring wheat states from this map? How does latitude help explain why spring wheat rather than winter wheat is planted here? What does the precipitation map tell about the spring wheat states? Why are these states better suited to wheat than to corn? Is there anything on the physical-political map which suggests how wheat reaches the markets of the East?
5. An item in the newspaper of June 17, told that farmers of South Dakota estimated that the average flax yield per acre would be nine and eight-tenths bushels. How do you think yield per acre can be estimated in advance? Do you think weather has anything to do with estimating crop yield? Would you like to investigate flax production in the United States? Find where the crop is raised, how the work is done, how the crop is used, and what in the natural environment favors flax production.
6. Another news item tells us that a bulldozer and road graders were used to clear away hailstones in a section of Illinois. The hailstones were four feet deep in spots. The hailstorm damaged crops and buildings. Have you ever seen hailstones? How large were they? What causes hailstones?
7. Plan, prepare, and serve a luncheon, using the products from this region.
8. Plan and make a series of dioramas to tell the story of the westward movement and the life of the times.
9. Compare corn bread, oatmeal bread, and wheat breads. Plan to try them in the lunch room.

WHY HAVE THE WESTERN STATES GROWN SO RAPIDLY?

Introduction

Why have the Western States grown so rapidly? The people who lived in our country in early times thought of the West as "The Golden West." The stories told by explorers interested people in the new lands. They wanted to settle in the West. When gold was discovered in California, many people moved to the West. Other minerals, good

farm lands, great forests, and other features of the natural landscape, attracted other people.

The first settlers had a long, slow, hard journey, sailing around by way of Cape Horn, others came over land. Later improved means of transportation made the journey less difficult and more and more people moved to this region.

Today "The Golden West" is a land where workers are busy in factories and mines and on farms and ranches. There are forest workers and fishermen, too. Some people are busy carrying on trade and other kinds of work. All these workers of the past and present have used the natural resources and new inventions to make "The Golden West." How can we interest the children in a study of the West? One teacher suggests we use a display of historical and geographical pictures, stamps commemorating events of the West, or a moving picture.

While interest is keen, suggest that the children do their own thinking about what they need to study by listing questions from which the class may choose the most important. What "tools" shall we use in solving our problems? How shall we use the "tools"? Example of children's questions are:

1. How did the United States get the lands west of the Mississippi River?
2. Who had settled in various parts? Where did they come from?
3. How did the people from the East travel to the western lands?
4. Why did the United States want more land?
5. How do people make a living in the West today?

Points for Special Emphasis

In this unit we want to develop a picture of the growth of the Western United States, an understanding and appreciation of how man has adapted himself to his natural environment, and in some cases, changed his natural environment to suit his needs, and an appreciation of the vast natural resources.

This unit, perhaps more than any other unit, indicates the relationship that exists between science and civic concerns. The interest in recreation in the out-of-doors is high in this country. You will note that the unit contains safety material. It also touches on the role of government control of resources and restraint on individual use of our resources.

Good use can be made of reading materials in textbooks, pictures, films, and historic accounts of

how and where resources are being used or saved in the country. The activities suggest more familiarity with the child's own community.

Evaluation in this unit should not include tests on locations of national parks. Here we are trying to develop the child's realization of the value of healthful living, his appreciation of nature, and an attitude that will increase his determination to conserve the assets of nature. The evidence of success in these respects is the real basis for evaluation.

Science concepts which will evolve as a result of the study are:

Man works best when he has periods of change.

Places in the community and State are set aside for recreational areas.

Animals depend upon good woodland cover and food.

Plants depend upon right light, soil, and moisture for existence.

Man may destroy areas or develop them into better places for his enjoyment.

Some plants and animals may become too abundant for their own or man's best interests.

Suggested Problems for Discussion and Study

1. Why have the Western States been growing so rapidly?
2. Why have people moved to the West?
3. Why did the early people of our land want to move to the West?
4. Who sent Lewis and Clark to explore the Oregon Country? Why were they sent?
5. Why did new settlers follow the path blazed by Lewis and Clark?
6. How did people travel to these new lands? (Include development of the railroads)
7. How did these pioneers live?
8. Why did the discovery of gold in California increase the population of the West?
9. Who first settled the West Coast? Where did they come from? What are the ways in which we can still see their influence?
10. What routes did the Forty-Niners use? Why?
11. How did the miners of that time live?
12. How do people live in the West today?
13. What did the term "The Golden West" mean in days gone by?
14. Why are the minerals mined today in the West of more use to man than gold?
15. How do the forests of "The Golden West" help us build our homes?
16. How have the streams helped man make a new "Golden West"?
17. Why have people built great dams in the West? Where? When?
18. What kinds of farms do we see in the West? Why?
19. How have the mines, the forests, the streams, and the farms helped the people develop manufacturing?
20. Why do people like to visit the West?

21. How does man enjoy these natural surroundings? (park systems)
22. Why must man play as well as work?
23. Where does man like to hike, hunt, fish, or picnic?
24. How can we insure that such areas will not be destroyed?
25. What have our local and national governments done to protect the natural areas where man plays? What other sorts of areas do our local, state, and national governments protect?
26. What are some of the plants that man likes to see left in the woods for all to enjoy?
27. What are some of the animals that man likes to see or hunt?
28. What can we do about developing the natural surroundings in our communities?
29. How do we care for the natural surroundings that we now have? (conservation)

Some Appropriate Activities

1. Study motion pictures and slides on the National Parks. Forest Conservation, the Arid Southwest, Cattle, Irrigation, Lumbering in the Pacific Northwest, Overland Trips to California, Producing Crude Oil, Sheep Ranching, etc.
2. Make a current events map of the West. Draw an outline map of the West on the blackboard. Collect current events about the West from magazines and newspapers. Mount these to the left of the map, draw a line from the news item to the place on the map which shows where the event took place. Write original news items of past events. For example, "Gold Discovered in California" is a news headline of the past. Mount your original news stories to the right of the map. Show the location of each by drawing a line from the item to the correct place on the map.
3. Illustrate by painting or making models: a Spanish Mission, a ranch house, a miner's cabin, equipment for various types of work, etc.
4. Make scrapbooks of the various industries or historical events.
5. Dramatize episodes in the early history of the West.
6. Study United States census figures for diversity of the West's population; also as a source for a density of population map.
7. Make individual reports of heroes of this section. There are many good stories about them.
8. Make product maps.
9. Do related science activities, pages 219-220.

PARTS OF OUR NATION THAT MAY SOMETIME BECOME STATES

Introduction

Beyond our immediate borders there are United States lands. These lands are scattered over a vast area. The people of these lands are citizens of the United States. These scattered lands became United States possessions in various ways and at different times.

Alaska is the largest of these possessions. Few

people live there, partly because of its far northern location and its rugged surface; but its fisheries, its mines, and its location in respect to Pacific trade routes make it a most valuable land, and it is growing rapidly.

The tropical islands which belong to the United States are valuable sources for crops which cannot be raised extensively within our borders. The islands and the Canal Zone are very important links in our trade routes.

It is suggested that the class study this unit as a whole, not as separate units on each possession; perhaps dividing into committees, or taking one phase of all possessions at a time, as their products, their climate, their present status as parts of the Union, the ways of life of the people, their foods, shelter, clothing.

The scattered American lands can probably be best introduced through a study of maps and the globe. What American lands lie beyond the borders of the forty-eight states? How does the map suggest that these lands are very different from any of the other states? (Latitude: either much farther from the equator or much nearer to the equator.) Which of the scattered American lands is the largest? What does the population map tell us about Alaska? What reasons for the sparse population are suggested by the physical-political map? Why do you think most of the people live in southeast Alaska? What work do you think the people of Alaska do? We must check these ideas by using other tools of learning, as the globe, books, charts, and graphs. Show on the globe the route you would choose if you wanted to fly the shortest route from Pennsylvania to China. (You will need a piece of string for measuring distances on the globe.) How is the route located in respect to Alaska? What does this fact suggest to you about the importance of Alaska?

Which of our possessions are tropical lands? What does the location of these lands suggest about the climate? What does the population map tell us about these lands? What does the physical-political map tell us about the surface? Are you surprised to find that these densely peopled lands are so rugged? What work do you think the island people do? What study tools shall we use to check our ideas about the scattered American lands? What other questions shall we set up to answer as we use our other tools?

Points for Special Emphasis

1. These possessions are parts of the United States and their citizens should have the same rights and responsibilities as those in the states. They should not be exploited but respected as valuable parts of the whole United States.

2. The basic interpretations of maps and globes can tell us much about the climate, topography, land usage, etc.
3. Each possession has particular values due to location and resources.
4. Fair and humane qualities in relationships are part of our national way of life and our spiritual heritage, and must remain so. Good humane education has been defined as that which answers the question, "Is it the human thing to do?"
5. The use of scientific principles in life activities varies widely in these possessions, due to climate, cultural heritage of the peoples, and topography.
6. Emphasize similarity of needs and urges of all people, not just their dissimilarities. Some of these peoples have made remarkable adjustments to their given circumstances.

Suggested Problems for Discussion and Study

1. How has Alaska repaid its purchase price many times?
2. How did Alaska become a part of the United States?
3. Why did many people oppose the purchase of Alaska?
4. What do the maps and globe tell us about Alaska?
5. Why is southeast Alaska unlike any other part? How has it helped repay the original cost of the territory?
6. How have we protected and increased the fur-seal industry in the Pribilof Islands?
7. Why is the great basin of the Yukon so slightly developed? What contributions has the Yukon Basin made to repay the cost of Alaska?
8. How do people make a living on the Arctic slope of Alaska? What future value may this region have?
9. Of what value was Alaska in World War II? Why was it the route for delivery of planes and supplies to Russia?
10. How has the development of air transportation from the "bush" pilots to the modern airlines opened up Alaska in recent years? (The United States and Canada recently completed a northern network of air bases to open vast frozen Arctic areas—main station at Campbell Lake, others at Point Barrow and Cambridge Bay on Victoria Island.)
11. Why are the Hawaiian Islands a valuable part of the United States?
12. How did the Hawaiian Islands become a part of the United States?
13. Why are these islands called "the cross-roads of the Pacific"?
14. Why has the raising of sugar cane become the leading industry?
15. Why are pineapples the second most important crop?
16. What invention was essential to the commercial development of pineapples?
17. Why do these islands attract thousands of visitors each year?
18. What Pacific Islands are valuable steppingstones? Why?
19. Why is Puerto Rico "our problem child"?
20. Why do the people of Puerto Rico have a hard time making a living?
21. How did Puerto Rico become a possession of the United States?

22. How has our government tried to help the people of Puerto Rico?
23. How did the Virgin Islands become one of our scattered lands?
24. Why did the United States build the Panama Canal?
25. Why did we want to build the Panama Canal?
26. What problems did we have in building the Canal? How were these solved?
27. Who were the leaders in this work? What did each do?
28. How has the Canal been valuable to us and to the world?
29. What are the homes and families in each of these lands like?

(See *Some Appropriate Activities* on pages 219-220.)

Some Appropriate Activities

1. Make a chart with the names of the possessions across the top and such items as size, population, by whom discovered, chief products, climate, etc., down the side. Children may compose statements together to fill in the blocks as the unit progresses.
2. Make vocabulary lists to include words such as *lei*, *poi*, *parka*, *locks*.
3. Do problems in bar graphs about industries, population statistics, exports and imports, etc.
4. Do problems about acreage per person, crops, forest coverage, square miles of tillable lands, etc.
5. Read stories of these peoples. They often tell more than facts.
6. Make such things as the natives make for their own use—simple utensils and tools.
7. Make costume dolls.
8. Make a one-string ukulele and play Hawaiian music.
9. Find out what *poi* is and try to prepare some. Be sure to taste it.
10. Get a piece of sugar cane, try squeezing it. Taste juice, compare juice with maple sap before it is cooked.
11. Compare sugar cane with bamboo corn stalk reeds.
12. Examine coins and stamps from Hawaii, and other United States possessions.
13. Obtain ripe raw fruits—e.g., pineapple and red banana—and have children taste and compare with taste of canned fruits.
14. Do related science activities, pages 219-220.

OUR COMMON INTERESTS WITH CANADA

Introduction

Although Canada extends over a vast territory, it has a small population. Most of the people live in the southern part of the country where the growing season is longer and the winters are less severe. Some people of southeast Canada make a living by fishing, partly because of location near the Grand Banks. Logging, pulpwood, lumbering, and paper industries are important due in part to the great forests. In the prairie provinces, farming and cattle raising are the leading kinds of work.

Spring wheat is the chief crop because the rainfall is light, the soil is rich, and the growing season is short. In Western Canada one sees sheep and cattle ranches. Hunters, trappers, and miners live in the forests and on the tundras of the north. The minerals and the water power of Canada are being developed and manufacturing is increasing.

Much of the early history of Canada is like that of the United States. Fur trappers followed the explorers into the interior. Colonies were established but the colonies did not grow so rapidly as those in the United States did. French and English claims to lands west of the mountains overlapped and resulted in a conflict which the English won and New France became an English land.

Points for Special Emphasis

The undefended border between Canada and the United States is not only the symbol of the long friendship that has existed between the two nations, but it is an example to the whole world of how neighbor nations with common goals and interests can live in harmony.

The futures of Canada and the United States are even more closely linked than their pasts. Air transportation is making great circle polar routes the vital highways for peacetime commerce as well as wartime operation. Canada's geographic position requires that many such air highways from the United States to the populated areas of the world must cross her boundaries. Following up the cooperative air bases established during World War II, the United States and Canada are completing a northern network of air bases to open vast frozen Arctic regions.

Aviation is playing a large part in developing hitherto inaccessible areas of Canada. The work of the "bush" pilot is well known. Now the air-borne magnetometer, which responds to differences in the earth's surface magnetic field, provides means for the discovery of oil, zinc, copper, and other sub-surface valuables in places which cannot be reached by foot or by boat. A newly developed system of identifying soils from air photos makes possible rapid evaluation of large territories in a few days. Engineers and geologists can classify soils from photos on the basis of origin, development, and engineering characteristics. In many of the provinces of Canada there are corps of air-borne smoke-jumpers. These parachutists are available for disaster service of any type, but are primarily used in fighting forest fires.

The field of conservation should receive emphasis. Canada is making every effort to conserve her forests and minerals through long-term plans for their usage. Waterways are important to her lumbering interests and the sources of water need extended protection. The same is true of her fisheries.

Diversity of population in Canada can also furnish an important lesson. Her French and English populations have worked out ways of living together that are exemplary.

Children should associate density of population with type of work, for example, they should think of a dense population when discussing a manufacturing region. They should see relationships between the distribution of crops in the United States and Canada and the distribution of surface features: rainfall, length of growing season, and other features of the natural landscapes. They should also be able to read latitude in degrees and estimate distance using 70 miles equal to one degree, and use their knowledge of latitude in solving problems.

Problems for Discussion and Study

1. How does Canada compare with the United States in size, in physical features, in climate, and in population? (This should be an over-all view, using maps, pictures, and a few significant statistics in graphic form)
2. How is the history of Canada like ours and how is it different?
3. What work did the early explorers do in Canada?
4. Why was the colony of Quebec established?
5. What were the relationships between these people and the Colonial people of the United States in Revolutionary times?
6. Why is the story of early Canada a story of fish and furs?
7. Why did priests make the long hard trip far into Canada?
8. Why did the colonies in Canada grow more slowly than those in the United States?
9. How did Canada become a part of the British Commonwealth?
10. What changes are taking place in Canada today?
11. Why do most of the people live in the southern part of the country?
12. How have the airplane and the caterpillar tractor made possible the more rapid development of Northern Canada?
13. How do the resources of Canada aid the industries of the United States?
14. How are the resources of our country helping Canada build a greater nation?
15. How can the United States and Canada work together to conserve resources?

¹See Bibliography, pages 156-157, and Appendix.

16. How do the people of Labrador and Newfoundland make a living?
17. Why are these lands important to our transatlantic airways?
18. Which region of Canada is a part of the same region as our manufacturing Northeast?
19. Which region of Canada is a part of the same region as our spring wheat belt?
20. What other regions have we in common with Canada?
21. Why should Americans and Canadians become well acquainted with each other?
22. Why did the early fur traders have to keep moving westward and northward to find a supply of furs?
23. Can anything be done to help nature keep up the supply of fur-bearing animals and other wild life?

Some Appropriate Activities

1. Have a *Then and Now* Art Exhibit. Have each member of the class select a topic or an activity to illustrate. Have each draw a picture of his subject as it appeared in the past and as it appears today. For example, one scene may show explorers making a portage from Lake Ontario to Lake Huron and ships using the Welland Canal today.
2. Have an Anglo-American Fair. Be sure to find out what *Anglo-American* means. Display products which we buy from Canada and ones which we sell to Canada. Make maps for display, showing the distribution of products and work activities which the United States and Canada have in common. Draw a series of pictures which will show how the history of Canada is like that of the United States. What else may be included in the fair? Have each class member prepare a report on some phase of the fair. Invite another class to see the displays and hear the reports. How does the Fair show our common interests with Canada?
3. Examine Canadian coins and stamps. What do these tell us about Canada? Begin a stamp or coin collection. It is well to collect stamps, not haphazardly, but around a central theme—United States Commemoratives, Portraits, Games, Historical Events, Animals and Birds, Maps. Find out how stamps should be mounted, labeled; how the pages should be bound. Make a loose-leaf stamp book.
4. Continue science activities, pages 219-220.

HOLIDAYS AND SPECIAL DAYS¹

Since most of the fifth year is spent studying the past and the present of our own nation, it is suggested that the following might be especially interesting to the children, and that the year's studies would be enhanced by some type of special program on at least some of these days, in addition to such "all-school" activities as Christmas.

September 14—National Anthem Day
 October 12—Columbus Day
 November—Thanksgiving Day
 January 5—George Washington Carver's Birthday
 January 17—Benjamin Franklin's Birthday
 February 1—National Freedom Day
 May 18—Citizenship Day ("I Am an American" Day)
 May 30—Memorial Day

BIBLIOGRAPHY

Here is a list of books which tell stories about the past and the present in Anglo-America. They are not reference books in the usual sense. A few may be classed as geographic readers. The majority are fictional with either an historical or a geographic setting. They are to be read for enjoyment and interpreted in the light of understandings attained through development of the unit outlines.

Books marked (H) have historical settings, those marked (M) have modern settings, and those marked (H-M) tell of both the past and the present.

ANGLO-AMERICA FOR GRADE V

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NOTES FOR BULLETIN 233-C



Air Age—Current Events—Visual Aids

Grade VI

INTRODUCTION

JOHNNY TWELVE-YEAR-OLD comes to you with a cumulative background of scientific, historical, and geographic knowledge. He has explored the town, the county, and nation to a fair degree. He has looked at the sky and explored its mysteries. He knows something about soil and rocks. But he has more than enriched understandings. He has techniques and skills that have been growing cumulatively. He has been meeting problems which have been growing successively more complex.

Now he is becoming conscious of local and national happenings. News broadcasts catch his ear, and the newspaper is becoming more than just the comic page. He is ready to expand his community concept to include neighboring nations. He is ready to get some understanding of how living and working in all the Americas are "tied up" with living and working in our country. He is ready to see that there are some problems that the people of each American country must solve for themselves, and some that we must all work on together.

This twelve-year-old child wants to be able to identify trees, flowers, and birds and to know the rules and regulations governing their control. He is increasingly curious about the composition of materials. He is ready for more information about forecasting weather, the skies at night, and changes in the earth's surface.

The concepts to be developed and the skills to be mastered at this age level are set forth in the following unit outlines. These outlines stress associative learnings. For example, the child studies the geography of Latin America and Canada. He learns about how the Spanish, French, and English helped in the development of our country. The historical understandings reinforce the geographical understandings and help the child to understand the patterns of living in the Americas today. Weather and climate are phases of geography; science and many of the activities suggested will enable the child to understand the why's of weather.

The two units entitled "Our Nearest Neighbors to the South" and "How the Nations of South America Have Developed" are basically geography units. It is felt that at this time the conflicting ideologies in Eurasia are more difficult for a twelve-year-old to comprehend than the dual cultures of Latin America. Therefore, the Americas have been selected for study at the sixth-grade level. Since one cannot understand any country unless he knows something about its history, certain historical concepts are included in each unit. The same is true of natural science.

The time line should receive a great expansion in the treatment of South America. In fifth grade, the children thought in terms of 400 years of background in our own country. The Aztec and Mayan settlements go back some 2000 years. Care should be taken to expand the time concept so that it has the maximum of real meaning.

Understanding of racial and national differences can be expanded. Children often bring home many preconceived and false impressions of physiological differences in nationalities, and even in races. This material presents an excellent opportunity for teaching the truth about other peoples.

The two units entitled "The Growth of American Institutions" and "Transportation and Communication in the Americas" are basically history units. Since history is a story that never ends, the units lead from the past to the present, emphasizing interdependence and cooperation in the Americas.

The units entitled "How Weather Changes and How We Predict Weather" and "Of What Are Substances Composed?" are basically science units. The committee suggests that these units be taught throughout the school year when the activities fit naturally into the daily work of the classroom. For example, consider the unit "How Weather Changes and How We Predict Weather." Activity number six, Keeping a Weather Record, is to be carried out throughout the year. Weather conditions should be recorded at the same hour each day. When the weather conditions are recorded, some time may be used to discuss a problem from the unit outline or to carry out an experiment. The number of minutes per day used for these purposes will vary. There may be some days when there is neither discussion nor experiment.

The use of comparison is a particularly valuable technique at this level. South Americans did experience and are experiencing a pattern of events very similar to those of our own country. Many geographical contrasts and similarities are also evident. The existing difficult environment has made the efforts of these people to establish a satisfying economy even more difficult.

While there is a tendency to overestimate the difference between the natural cultures of Europe, we are often likely to assume that our Latin-American countries represent a single cultural pattern with little differentiation in history, inhabitants, and customs. To possess such a concept is hardly the way to promote friendliness and understanding. Each of the twenty-two republics of Central and South America has individual pride in its national heritage, its origin, its struggle for freedom, and its social and economic development into a nation. Our children need to get a personal view of the countries, to know the national heroes and their history-making deeds, to know how the people live, and at what they work; to know what the industries are and how the climatic and physical characteristics have influenced them. Finally, they need to know how cooperation is benefiting both continents.

The approaches to the problems should be made as suggestions, with the understanding that the country could be studied from a variety of angles. The material should not be interpreted to be all-inclusive, or to be fixed in content or extent. The following units are samples of ways of treating this body of content. For example, sixth graders are going to study Mexico; to that extent the work will be similar; but a wide variety of approach, emphasis, and duration of time will be experienced in the schools of the State.

OF WHAT ARE SUBSTANCES COMPOSED?

Introduction

This unit is definitely a science unit. It is an attempt to include certain fundamental scientific material that does not seem to integrate. By the time children have reached the sixth grade they have had or have seen chemistry sets or they have wondered about the composition of the materials that make up the earth and all that is found on it. They have heard radio programs and read newspaper articles dealing with atomic energy, molecules, atoms, and chemicals. In an elementary way they should receive some information about these topics which will enable them to go on from where they are.

What a fascinating world it is! Here is an opportunity to do experiments like grown-ups. Such experiments call for reaching conclusions from what is seen. Here is the chance to inquire into how things we see everyday are made.

Many applications should be made to the simple chemistry that takes place in the home. Testing for degree of hardness in water, how to make carbon

dioxide with vinegar and baking soda, why fire burns, why iron rusts, and cleaning grease spots from clothing, are proper kinds of questions for this unit. It appears to be chemistry but it should be far different from the chemistry of the high school, which is generally college-preparatory in nature.

How does man learn about how things are made? What substances cannot be divided into other substances and what substances are made of a combination of other things?

Points for Special Emphasis

Substances are made of elements and compounds.

Elements combine to form compounds.

Many things we use in the home involve simple chemistry.

Many substances may exist as a solid, liquid, or gas.

Some Appropriate Activities

1. Name many different substances that cannot be broken down into two or more different substances. Make collection of pieces of iron, copper, gold, silver, lead, zinc, magnesium, carbon, to illustrate some common elements.
2. Burn a piece of paper on a metal tray. Where do the materials go?
3. Pour a glass of water into a glass full of cotton to show that there is space in what seems to be solid matter.
4. Pour sugar and salt into a full glass of water to show that there is space in the liquid.
5. Recover sugar from water by suspending a string in a glass of water in which much sugar is dissolved.
6. Place a lighted candle in a saucer of water and cover with a narrow glass tumbler to show that fire requires materials from the air to burn.
7. Make carbon dioxide in a glass tumbler by adding two tablespoons of vinegar to one teaspoon of baking soda. Pour the carbon dioxide into a glass containing a small lighted candle to show carbon dioxide will put out the candle.
8. Moisten iron filings or steel wool in the bottom of a test tube. Invert the test tube and place open end in a tumbler containing one-half inch of water. The water will rise in the test tube as oxygen is used by rusting iron.
9. Burn fine steel wool in a flame to show rapid combination of iron and oxygen.
10. Test water from various places for hardness or softness by adding drops of liquid soap in a bottle of water to see how many drops are needed to form "seeds."
11. Soften and bend a piece of glass tubing to show that a solid material like glass may be melted.
12. Heat baking soda in a test tube to show that crystals contain water.
13. Remove iron filings with a magnet from a mixture of sand and iron filings to show that mixtures can be separated easily.
14. Put a glowing splinter into a test tube containing oxygen made by heating a test tube containing $\frac{1}{4}$ teaspoonful of baking soda and one tablespoon of hydrogen peroxide.
15. Change water into ice by freezing it and into a gas by heating it.
16. Taste vinegar and rub it between the fingers. Do the same with a solution of baking soda and water. Vinegar is an acid. Baking soda is a base. Mix the two and taste the mixture. Acids and bases neutralize each other.
17. Bake a pan of drop cakes, each cake containing different amounts of baking soda.
18. Have a student bring a chemistry set to school and demonstrate some experiments.

OUR NEAREST NEIGHBORS TO THE SOUTH — MEXICO AND CENTRAL AMERICA

Introduction

We are going to spend a part of this year exploring the countries of Latin America. Let us look at Latin America as a whole, before we begin the study of individual countries. Why are these lands called Latin America? Locate Latin America on a

a world map and on a globe. How is it located in respect to the United States? Follow a north-south direction line from the United States south through the Latin-American lands. (If you live near Philadelphia you may use the 75th meridian; if near Pittsburgh the 80th.) What do the north-south direction lines or meridians tell us about the location of Latin America? Study a population map of Latin America. Is the population evenly or unevenly distributed throughout the lands? Compare the population map with a physical-political map of Latin America. On what kind of land do most of the people of Mexico and Central America live? Where in South America are there almost empty lowlands? Where in South America do many people live in mountains? Where is there a rather densely settled lowland? How is air transportation helping in the development of sparsely settled areas in Latin America? How does latitude help explain where people have chosen to live in Latin America? What does a survey of the pictures in our textbook tell us about Latin America? What kinds of work are suggested by the pictures? Are there items in the pictures which help explain why a kind of work is important? What crops do you recognize? Are there crops which you have not seen before? What do the pictures suggest about transportation methods? What do the pictures suggest about the kinds of houses in which the people live? How do the pictures suggest that Latin America is a land where old and new ways of living are found side by side?

Mexico and Central America are our nearest neighbors to the south. "Buenos dias, amigos." What does that mean in Spanish, the language of Mexico and Central America? Three other Spanish terms are: *tierra caliente*, *tierra templada*, and *tierra fria*. Shall we find out what they mean, to which part of Mexico and Central America each refers, and why they are fitting names for the regions?

Points for Special Emphasis

The earliest explorers who came to Middle America were seeking a passageway to the Indies. They heard stories about the gold and silver in the Americas. The stories about great riches brought other explorers to this part of the New World. In the land now called Mexico the explorers found a great civilization—the Aztec. The Spaniards were able to conquer the Aztecs because of certain advantages.

Colonies were established in the New World. The Spanish brought their ways of living to the new lands. They taught the Indians some of their

ways of living and from the Indians learned new ways of making a living.

History helps explain why life today in Mexico and Central America is a mixture of Spanish and Indian ways of living.

Most of the people of Mexico live in the Central Plateau because most of the soil is rich, the land almost level, and the rainfall adequate for certain crops. Cattle ranching is important in the drier northern plateau, and irrigated farms dot the landscape where water is available. Tropical plantations are scattered along the eastern coast. Mexico is rich in oil and other minerals. Much can be done to improve transportation and ways of making a living in Mexico.

Most of the people of Central America are farmers. They raise their own food and a small surplus for trade. Coffee is the trade crop of the highlands. Bananas and cacao are the money crops of the Caribbean lowland, and cattle and sugar cane of the Pacific lands. Mining and forest industries are carried on. Location within the Tropics, a variety of surface, forest and mineral resources, and location in respect to trade routes help explain the patterns of living in Central America.

Turn back to the units in Grades IV and V. What map skills have the children begun to use? These skills must be strengthened in Grade VI. We'll have to teach longitude now. Let's not make an elaborate mathematical problem out of it. Let's do the job gradually, some work in each unit. We may begin by discussing: What Latin-American country would we reach if we flew in an airplane directly south from our home town? Do we see anything on our maps which may help us answer that question? What do you note about these lines on the globe? Do we see there are such lines from pole to pole entirely around the earth? Is there a beginning or first line anywhere? How do we know? Surely our questions will lead us on to other questions about what the lines are called, how we read them, and why we need them. We're going to be using for the first time large scale maps of certain cities. It's fun to read about a city with its map in front of you and fit the words right into the map. For example we read, "A broad avenue connects the House of Congress and the President's Home." Here on the map we see the buildings. Here is the broad avenue.

Are you making use of what the child has learned to do with landscape and pictures? Use some questions which will direct the child's attention toward standards of living. For example, is there anything

in the picture which leads us to think that these people have electric refrigerators, automobiles, and the like, as we do?

Problems for Discussion and Study

1. Why is most of the Tierra Caliente of Mexico a sparsely populated land? Why are there areas of denser population around Tampico, Vera Cruz, and Progreso?
2. What scenery does one see in the Tierra Templada? Why?
3. Why do half the people of Mexico live in the Central Plateau?
4. How is northern Mexico like southwestern United States?
5. How do people make a living in the drier western lowlands?
6. Why is Mexico called both a rich and a poor land?
7. What changes do improved means of transportation make in Mexico?
8. Why is Central America called a land of bananas and coffee?
9. Why is British Honduras a producer of forest products?
10. Why is Guatemala called a land of Indian farmers?
11. Why is El Salvador a one-crop country in trade?
12. Why is much of Honduras an empty land? Why do airlines in Honduras carry so large a percentage of the people who travel from the interior to the coast? Mining machinery, chicle, and mineral products are also transported by plane.
13. What will the new canal mean to Nicaragua?
14. Why is Costa Rica considered the most progressive of the Central American countries?
15. How do people make a living in Panama?
16. How did the Aztecs live in Mexico before the coming of the white man?
17. What did Cortez do in Mexico?
18. Why were the Spanish able to conquer the Indians?
19. What new products did the Spanish take to the Old World from America?
20. What land system was set up in New Spain?
21. What rules about how to build towns were followed in the Spanish Colonies?
22. What kind of home did a Spanish colonist build in the New World?
23. How did Mexico and the other countries of Latin America become independent countries? (The Revolutionary Wars of the Latin-American countries are not to be developed in detail. At this age, children need only to discover that the story of Latin-American independence closely parallels that of the United States.)
24. What food plants grew in your community before the white man came?
25. Was your home town built according to a plan as Spanish towns were? Has your town any present plans for making improvements?
26. What part did Nicaragua and Panama play in the Gold Rush to California? Why?
27. Why haven't the Mexicans always liked us? What happened about the boundary line? What happened when American business started industries in Mexico? What are we doing now toward maintaining friendship between the two countries?

Some Appropriate Activities

1. Make a collection of products or pictures of products which the Indians gave to the Old World and of those which the white man brought to the New World. Why is it helpful to a group of people to learn the ways of living and the ideas of other people?
2. Show how maps tell stories by answering the following: How does a physical-political map show that Middle America is a land of three climates? You will have to read latitude in relation to surface to get the answer. How does the map show that the largest city of each Middle American land is also the capital city? How does the map show that some lands in northern Mexico and some on the Pacific Coast of Mexico could be irrigated? How does the map show that a person living in Mexico City would see the noon sun overhead twice during the year? How does it show that a person living in Monterey would always see the noon sun in the southern sky?
3. Write the Middle America Information Bureau, Box 93, Lenox Hill Station, New York 21, N. Y., for booklets and other materials about the Central America lands.
4. What kind of weather record will you keep this year? Learn to read a barometer. How does the barometer help us forecast the weather? Add the barometer reading to the *daily weather record*. (See unit outline: HOW WEATHER CHANGES AND HOW WE PREDICT WEATHER.)
5. From an airline ticket office (Pan American, TWA, etc.) secure a map showing commercial air routes to Latin America. How does air transportation bring better understanding and better trade relations with Latin America? In February, 1948, eighty business persons of Portland, Oregon, made a flying business and pleasure tour to Sonora, Mexico, in 32 light planes. A similar international tour of 22 light planes from Yuma, Arizona, visited Mexico in January, 1948.

HOW WEATHER CHANGES AND HOW WE PREDICT WEATHER

Introduction

This unit is essential to the teaching of geography. It suggests some activities that any group of boys and girls will delight in doing. The worthwhileness of this unit to the child is in direct proportion to the number of things the teacher helps the children do. There will be little need to give long factual tests on the weather if children do a large part of the activities listed below. Put the emphasis on how the weather man does it and demonstrate the method and phenomena with homemade equipment. Man's adaptation to weather and the science of meteorology should be emphasized. Geographic concepts of temperature relationships to latitude and altitude can be diagrammed. The science of rainfall and evaporation can be applied to the different rain belts.

Weather projects give a fine opportunity to divide the children in groups with different projects to work out and construct for class demonstration.

Weather charts, temperature readings, pressure readings, diagrams, wind measuring devices, frost and dew are all suitable projects. Historically it is significant that South American cultures were slow in their application of science except in the processes used by large corporations in South America.

Points for Special Emphasis

1. Air is composed principally of nitrogen, oxygen, and carbon dioxide.
2. The weight of the air above the earth presses down, producing what we call pressure.
3. Pressure is exerted in all directions.
4. Air expands, and when heated becomes lighter.
5. Air contracts when cooled, becoming heavier.
6. Winds are caused by differences in pressure.
7. Water changes to gas when it evaporates and is distributed throughout the air.
8. Water in the air changes to various forms when air is cooled.
9. Barometers, barographs, wind vanes, anemometers, thermometers, balloons, and rain gauges are used to gather information about the weather.

Suggested Problems for Discussion and Study

1. Of what is air composed?
2. How does air exert pressure?
3. How does air change with changes in temperature?
4. What causes winds?
5. How does water get into the air?
6. What is meant by humidity?
7. How does water come out of the air?
8. What is meant by dew point?
9. How do we measure air pressure?
10. What different forms does water take?
11. What instruments are used to measure air pressure, humidity, temperature?
12. What are some scientific ways of predicting weather?

Some Appropriate Activities

1. Weigh a football or basketball before and after putting air into it to see if air has weight.
2. Measure the pressure of an automobile tire with a pressure gauge. How does the amount of air in the tire affect the pressure?
3. Cap tightly and cool a gallon can containing one cup of *boiling* water.
4. Suck air from a funnel by means of a rubber tube attached to the narrow end, fastening a sheet of rubber across the mouth of the funnel. Have the funnel in different positions to show air exerts pressure in all directions.
5. Learn to read a barometer and keep records of the changes from day to day.
6. Keep records of the weather from day to day throughout the year, showing barometer reading, wind directions, estimated wind speed, cloud types, precipitation and temperatures.

7. Compare temperature reading on two thermometers, one bulb moistened with a piece of cloth and the other dry. What causes this difference in temperature reading?
8. Visit a weather station.
9. Study weather charts put out by the United States Weather Bureau, often found in the daily paper.
10. Make predictions of the weather for the coming day, using all available scientific instruments. Compare them with the actual weather and predictions in newspapers.
11. Determine the temperature at which dew forms on a glass by adding cracked ice to a glass of water containing a thermometer.
12. Compare pictures of clouds with actual clouds to learn their names.
13. Discuss advantages of weather prediction.
14. Discuss man's recent experiences at rain-making, first accomplished in 1946, by dropping dry-ice pellets from airplanes into clouds. A commercial firm called Weath-Air, Inc., has a contract to produce artificial precipitation for the Salt River Valley Water Users Association of Arizona. Why have Arizona, Nevada, and Utah shown great interest in this project? What problems as well as benefits do man's rain-making projects bring?
15. Report upon World War II's influence upon the study of weather. Why was weather information in advance so important?
16. To show how air exerts pressure
Secure two rubber sink stoppers. Run water over the under-surfaces, then press them together to force out all the air between them. Try to pull them apart. Note how much the air presses them together. Use a plumber's plunger. Wet its under-surface and press against the floor. Note that air pressure keeps it from coming up. Discuss the necessity for punching two holes in a can of milk or fruit juices. Demonstrate.
17. To show how we measure air pressure
Construct a mercurial barometer. Secure an aneroid barometer and study its construction, or build an elementary one by capping an empty quart milk bottle with a rubber diaphragm cut from a rubber balloon. Glue a soda straw or broom straw to the center of the top of the diaphragm with the end of the straw protruding beyond the bottle's edge. Place the bottle on a board to which is attached an upright with a reference scale. The straw, pointing from the bottle top to the scale, will move as changes in air pressure within the bottle cause the rubber top to move up and down. Note fluctuations from day to day.
18. To show that air pressure varies with altitude
Compare the reading of the aneroid barometer on the school grounds and on the top floor of the school, on the first and top floors of a high building. Discuss differences due to altitude in barometer readings at places on the seacoast and in the mountains.
19. To show how aircraft industries have adapted the aneroid barometer as the instrument called a pressure "altimeter" to indicate altitude. This altimeter is an aneroid barometer reading in feet of altitude instead of units of pressure.
Secure an altimeter, or pictures or diagram of one. Point out that the altitude shown by the altimeter reading is not the altitude above the ground over which the plane is flying, but is the altitude above sea level or a selected reference point. Note the resulting importance of a pilot's knowing the elevation of the land over which he is flying. Refer to contour lines on maps.

20. Solve problems in the use of materials in construction and mechanics in order to make:
 - A kite that will fly
 - A barometer that will indicate air pressure
 - A weather vane that will give direction of wind
 - A wind instrument that will indicate velocity of wind

HOW THE NATIONS OF SOUTH AMERICA HAVE DEVELOPED

Introduction

The teacher should constantly keep in mind that the main objective in teaching about Latin-American lands is not merely to teach the facts but to develop an understanding and an appreciation of the work, contributions, and possibilities of these people in their adjustments to a difficult environment. New interests in their own local communities, in the United States, and in the world should be stimulated. These interests and understandings are needed for "One World."

This unit should contribute largely to understanding that man's ways of living in the Latin-American countries are in part a result of his cultural heritage, his scientific achievement, and his natural environment.

The children should grow in their understanding and respect for the peoples of Latin America and increasingly realize the interdependence of nations.

Certain abilities should be fairly well established by the end of this unit, including ability:

1. To read longitude, apply longitude reading in the calculation of standard time and locate a place on a map when given the latitude and longitude.
2. To record on an outline map data pertinent to the solution of a problem.
3. To associate certain landscapes with specific countries.
4. To use graphs and statistics to a fairly extensive degree.
5. To use new vocabulary terms.

Activities Which Are Appropriate for the Entire Unit on South America

1. Make a picture dictionary of new words which you learn in the study of Latin America. Here are a few to help you begin your dictionary: machete, llanos, and llanero.
2. Make a graph showing where the United States buys coffee. Draw a bar ten inches long and one inch wide. Divide it into ten one-inch squares. The ten-inch bar equals 100 per cent. What per cent does a one-inch square equal? Show on the bar that the United States

buys 59 per cent of its total coffee import from Brazil, 22 per cent from Colombia, 9 per cent from Central America, 1 per cent from Venezuela, and 9 per cent from all other countries. These statistics are for the year 1946; teachers, however, should use latest available data. What title will you give the graph? What will you show in the key? Explain why we buy coffee from Brazil. (Statistics should be up to date. See sources in Bibliography.)

3. Why is January 1 proclaimed Good Neighbor Day? How can we make every day a good neighbor day?
4. The United States invited other American nations to attend a Natural Resources Conference in Denver, September 7-20, 1948. What do you think would be discussed at such a meeting?
5. Begin a collection of Latin-American stamps. What do the pictures on the stamps tell us?
6. Collect uncaptioned pictures of Latin-American countries you have studied. Have the class tell where they think each picture was taken and why they think so.
7. Prepare and give short descriptions of a country and have classmates associate the description with the particular country. For example, when one reads, "Mining is the chief work activity of the northern desert, farming is the most important work in the middle region, and sheep herding is the leading occupation in the rainy and rugged southland," the class identifies the description with Chile.
8. Learn the meaning of words that describe the work, especially the home industries of the people. Such words are best understood through first-hand experiences with materials. For example—
 - a. Clean, wash raw wool
 - b. Remove seeds from a cotton boll and plant them
 - c. Spin wool or cotton fibers by hand, using simple spindle
 - d. Weave threads or yarns on simple loom, making cloth for waist, blanket, or skirt for doll
 - e. Gather, prepare, and braid straw to make hat for doll
 - f. Make sandals for self or doll
9. Make masks for a native festival. Find out how to make real ones.
10. Make, decorate firing clay into dishes, money banks—solving some of the same problems faced by other pottery workers.
11. Get a gourd, making it into a dipper, water jug, dishes, spoons, rattles, etc. Gourd rattles play an important part today in Cuban and Latin-American music.
12. Get a soft piece of wood and carve a spoon.
13. Plant gourd seeds. When gourd is ripe, dry it and make a rattle or dipper.
14. Solve problems in the use of materials in construction and mechanics in order to make—

A xylophone or a stringed instrument that will give music when played.

Castanets, rattles, drums, and tambourines that can be used in emphasizing the rhythm in the dances.
15. Plan to give a party using native foods—

Search for recipes and appropriate foods and ingredients.

Plan menu.

Prepare meal and serve.
16. Plan, make, and use the things needed for a puppet show in which class will tell the story of the people in one of the countries. (Note: Listing some of the important things to be made and done and getting individuals or groups to accept responsibility for certain jobs, can be done in one of the first discussion and planning periods while the play is still being discussed.
17. Experiment making an oven in which to make charcoal.

A. The Caribbean Lands — The West Indies, Venezuela, The Guianas, Colombia

Introduction

Our travels will now take us through a chain of islands in the Caribbean Sea and to the lands which face that sea. Let us find from the map the names of the islands and countries we shall visit. Which of the West Indies did you visit when studying America's Scattered Lands? How did the United States acquire Puerto Rico and the Virgin Islands? Of what value are these lands to us?

How does the map show that European nations have colonies facing the Caribbean? How do you think the countries of Europe acquired the possessions? Why do you think they wanted these lands?

What do you notice about the location of the West Indies in respect to the Tropic of Cancer? What does the location suggest about climate? What would you expect to be true about climate in the Guianas? How does the surface of Colombia and Venezuela plus the latitude suggest that these lands have a variety of climates? Where are the largest cities of Venezuela and Colombia located? Why do you think they are located in highlands? Which of the Caribbean countries has the densest railroad pattern? What does this fact suggest about Cuba? How does location suggest that all these lands may be interested in trade?

Points for Special Emphasis

The West Indies were the first lands in the Western Hemisphere to be discovered and settled. Unable to find gold, the settlers began raising sugar cane. Sugar cane is still the chief commercial crop of Cuba and many other islands. Other money crops are predominant in certain areas. Location within the Tropics and in the path of the Trade Winds helps explain the money crops.

The Guianas have hot, swampy coastlands where people work on rice and sugar plantations, cut timber, or mine aluminum ore.

Venezuela and Colombia have a variety of climates due in part to location in respect to the equator and to a variety of topography. Most of the people prefer to live in the highlands because it is cooler and healthier. Coffee is the leading money crop of both countries. Venezuela ranks

third among the world's oil producers due to the development of the Maracaibo oil fields. Oil and other minerals are mined in Colombia, too. Herding beef cattle is the important work on the Llanos. Both Venezuela and Colombia have serious transportation problems. The construction of new highways has improved transportation to some extent in Venezuela. The airplane is helping Colombia solve her transportation problem. Why? How?

Problems for Discussion and Study

Are you interested in learning more about the history of these countries?

1. What kind of settlements did the Spanish start?
2. What was El Dorado and how did it get Drake and Raleigh into trouble?
3. How did Bolivar help his people achieve independence and set up a nation?
4. What type of life did the Indians have before the capture of Bogota?
5. How did Colombia, Venezuela, and Ecuador achieve their independence?
6. In the West Indies the diet of the natives consists largely of rice, beans, and bananas. Compare this diet with the diet prescribed in the Basic Seven daily food requirements.
7. Even the most humble home in Central and South America may have portable sewing machines. How does this affect the appearance of the women and girls?
8. Find out what kind of homes the majority of people live in. What kind of fuel do they use for cooking? Do they have modern conveniences in their homes?
9. Do they practice any kind of handicraft in Puerto Rico to add to the family income, such as making drawn work and baskets? Do the children participate in this handwork?
10. What recreation is provided in the home? Outside the home?

THE WEST INDIES AND THE GUIANAS

1. Why has Cuba become the "sugar bowl" of the world?
2. What other crops and products are produced in Cuba? Why?
3. How does life in Haiti differ from that in Cuba? Why?
4. How do the people of the Dominican Republic make a living? Why?
5. Of what value are the colonial possessions of the Caribbean to the Mother Countries?
6. Why were settlements made in the West Indies? What work became important?
7. What interest have the United States and other countries of the world in the West Indies?
8. Why were the Guianas so slow in developing?
9. What kinds of work are carried on in the Guianas? Why?

VENEZUELA

1. How did the work of Pizarro help unroll the map of South America?
2. How did the Inca Indian fit his ways of living to the kind of land in which he lived?

3. What part did Simon Bolivar play in the story of Latin-American Independence?
4. How are Venezuela's petroleum deposits aiding Venezuela and other countries, too? (Location of oil fields; how discovered; how mined; how transported; how government uses income from petroleum exports)
5. What do the new highways mean to Venezuela?
6. Why do most of the people live in the mountains? How are the products of the highlands in part related to surface, climate, and soil?
7. Why do the Llanos remain a sparsely populated grazing land?
8. Why are the Guiana Highlands of Venezuela a little used and little known land?
9. Why have the people of Venezuela the prospects of a bright future?

COLOMBIA

1. Why did the Spanish-American countries not become a federation of united states after the wars of independence?
2. Why are Colombia's coastal lowlands sparsely populated lands? How do people make a living there? Why?
3. Why is Colombia's *tierra templada* a land of coffee?
4. Why is manufacturing becoming more important in the *tierra templada*?
5. Why is Bogota located in the *tierra fria* of Colombia?
6. Why are ways of living in the *tierra fria* today much as they were when the Spaniards first arrived?
7. Why have the people of Colombia had difficulty in developing their valuable deposits of gold, platinum, emeralds, and oil?
8. Why is transportation a serious problem in Colombia? How has it handicapped the country?
9. In view of Colombia's history and geography, what are the future possibilities of the country?

Some Appropriate Activities

1. What time is it now in your classroom? What time is it in Bogota, Colombia? In Georgetown, British Guiana? In Guatemala City? How do we calculate time? Why is time related to longitude?
2. One writer has referred to Colombia as "Air-Minded Colombia." Why are the people of Colombia becoming air-minded? (*The Reader's Digest Workbook, Part One* for Grade VI, tells the story.)
3. The hurricane season arrives in the West Indies during our early fall. Have there been reports in the newspapers about hurricanes? Watch for news items about hurricanes. What can you learn about the storms?

B. The Andean Countries — Ecuador, Peru, Bolivia, Chile

Introduction

What will a survey of the maps and pictures in our text and reference books tell us about the Andean Countries of South America?

Use a physical-political map of South America

to help answer these questions. Which countries of South America are Andean countries? In this discussion we study only four—Ecuador, Peru, Bolivia, and Chile. How does the map show that each country is made up of two or three natural regions? Where would you expect to find a coastal lowland similar to Colombia's Pacific Coast? What change in the length of the growing season may be expected as one travels south along the western coast of South America? Where in these lands may one point overhead to the noon sun? Where would one always see the noon sun in the northern sky? What do you notice about the location of the largest cities? Why do you think they are located in highlands? What indicates that the eastern lowlands of Ecuador, Peru, and Bolivia are poorly developed? Why do you think they are poorly developed? How does the railroad pattern of Chile differ from that of the other three countries?

What do the pictures in your books tell you? What pictures tell you how the Incas lived, how the Spanish conquered the Incas, how the Spanish built new cities, how the Spanish established churches and schools, how the Spanish used the Indians as laborers, and how the colonies gained independence? What can you learn from pictures about present-day life in the Andean countries? What objects in the pictures show that these lands were once Inca lands? What signs show the influence of the Spanish? What can you learn about life in an Indian village? What can you learn about life in a large city? What kinds of work are shown in the pictures? What crops are raised? Is there anything in the pictures which suggests why these kinds of work and these crops are important? What means of transportation are shown?

How can we check the ideas we have read from maps and pictures?

Points for Special Emphasis

The Andean countries of South America have many things in common. High mountains form the backbone of the countries. Each is a divided country—a land of diverse regions. Landscapes and customs show that these lands were once a part of the Inca Empire and later a part of the Spanish Empire. Improved means of transportation will aid their progress.

Ecuador's tropical coastland produces many of the country's exports. However, most of the people live in the high plateau. Almost all the highland people are pure-blooded Indians. Their customs

and ideals are largely those of the Inca civilization.

Peru's dry coastal land is a land of wealth. Peru produces cotton, sugar cane, and many food crops; oil and guano are products. Highland Peru is still in many respects an Inca land. Copper, one of the leading exports, and other minerals are produced.

Bolivia's inland position and her rugged surface have made trade for that country difficult and expensive. Living and working on the cold plateau are difficult. The eastern slopes are good farmlands but are cut off from markets in the highlands and abroad. Tin, the leading export, is mined in the highlands.

Chile's dry northland is an important part of the country because of the copper and nitrate resources. Most of the people live in middle Chile where the valleys and slopes and the climate help make farming profitable. Southern Chile is a land of sheep and forests. Lumbering, however, is not very important, chiefly because of distance to market.

Problems for Discussion and Study

For further investigation in the history of these countries use these questions as guides.

1. How did the early Incas of Ecuador live?
2. How did they resist Pizarro's and Benalcozar's attempts to conquer Quito?
3. What would happen if a country tried similar tactics today?
4. Do people usually play fair during wars?
5. How did DeSucre and Bolivar achieve Ecuador's independence?
6. What type of government did they set up?
7. Why did they pattern it after the United States?
8. Why were the Incas unable to defeat Pizarro?
9. What decides who wins in a war?
10. How did San Martin show he was a great statesman as well as a great general in his cooperation with Bolivar?
11. What were the results of Pizarro's invasion in terms of oppression of the Incas?
12. Should a people ever be oppressed?
13. Do we have oppressed people in the world today?
14. How did DeSucre and Bolivar free Bolivia?
15. How did the people show their appreciation?
16. What foolish wars did they get into later?
17. How did the early Indians live in Chile, in contrast to the Aztecs?
18. How was the Spanish conquest actually an important factor in the establishment of Chile as a nation?
19. What other practices did they resort to in order to acquire land? Were they playing fair?

ECUADOR

1. What items in the landscape of Ecuador today show the influence of historical events?
2. How did Ecuador get its name?
3. Why do the coastal lands of Ecuador furnish the country's chief exports?
4. How did scientific knowledge make Guayaquil a healthful city?
5. Why do about three-fourths of the people of Ecuador live in the highlands?
6. What are the eastern lowlands like?
7. Why is Ecuador called a "divided country"? How may Ecuador become a "united" country?

PERU

1. What in the scenery of Cuzco today tells the story of the Incas? What is life like in an Indian village today?
2. Why do the Indians live as they do?
3. Why is the coast of Peru a desert land?
4. What crops are raised in the Peruvian Desert? How is farm work carried on? Why is farming important?
5. Why are the oil fields of Peru an important resource?
6. How do the bird colonies of the islands help the farmers?
7. Why is eastern Peru a frontier land?

BOLIVIA

1. Why may Bolivia, too, be called a "divided" country? Why is it often called "the land in the sky"?
2. How do people make a living on the cold, wind-swept plateau? Why?
3. How do people make a living on the rainy eastern slopes?
4. What in the scenery of Bolivia reminds us that it was once an Inca land? What in the scenery shows that it was conquered by Spaniards?
5. Why has not Bolivia fully developed her resources?

CHILE

1. How is Chile like parts of the western coast of North America? What part of Chile is like California, Washington, and Oregon? What part is like northwest Mexico? What part like western Canada? Why are these regions north and south of the equator so alike?
2. Why do most of the people of Chile live in Middle Chile? What kinds of work do they carry on? Why?
3. Why do Chile's most important exports come from the desert?
4. How is land in the cool, rainy south used?
5. Why are the Chileans sometimes called "the Yankees of South America"?

Some Appropriate Activities

1. Have an Indian fair. Every day of the week is fair day in one or another of the Indian towns of the Andes. The fair is a colorful business and social event. Read about Indian fairs. Make plans for your fair and invite another class to see it.
2. Get direct information from addresses in the bibliography, and give individual reports about the customs and industries.

C. The Plata River Countries— Argentina, Uruguay, Paraguay

How This Part of South America May Be Introduced

Notice the title—the Plata River Countries. Plata means silver. Find the Rio de la Plata and the countries which border it on the map. Why do you think an early explorer named the river "the Rio de la Plata"? Do you think it is a river of silver today? Our study of the Plata River countries will tell us.

What do our maps tell us about these countries? How do they compare in size with other countries of South America? What do you read about the surface pattern? Where are there areas of dense population? Of sparse population? Where are the railroads located? Where are the largest cities? What does latitude tell us about the growing season in the north? in the central part? in the south?

Points for Special Emphasis

Argentina is the country more nearly like our own country than any other in South America. The fact that Argentina has the resources to supply food to Europe and other countries, including our own, places it in competition with the United States. It is important for children to be able to draw conclusions from this concerning relationships between the two countries. Argentina's lack of minerals hinders industrial growth, in contrast to the industrial development of our own country.

Uruguay is one of the most progressive countries of South America. Her government provides many conveniences for the people and most of the farmers own their own homes. Paraguay, on the other hand, because of its location, its lack of resources, and the composition of the population, has not progressed as rapidly.

The history of South American countries parallels our own in that they have struggled for independence. Attention needs to be given to these struggles.

Problems for Discussion and Study

Would you like to know more about the history of these countries? These questions will help you.

1. Who were the explorers whose exploits caused Spain to claim the Plata countries?
2. How did San Martin help the people to achieve freedom and set up a nation of their own?

- How are the governments of Argentina and the United States alike?
- Who were the early peoples who settled in Uruguay and what great city did they found?
- What did Artigas and Lavelleja do to help their people establish their independence? Why is Uruguay called a "buffer" state?
- Why did John Cabot name the river he discovered the Rio de la Plata?
- What were Cabot and the Spaniards hunting for when they explored Paraguay?
- How did Paraguay become the first republic in South America? What do they owe to Juan Caballero?

ARGENTINA

- Why is Argentina the leading commercial nation of South America?
- Why are the pampas the "heart" of Argentina?
- What is produced on the pampas? How? Why?
- What is life on an estancia like?
- Who migrated to Argentina in the Great European migration? How was it similar to the migration to the United States? Why was the migration important to Argentina?
- How is grain transported from the farms to the docks to be exported?
- Who buys Argentina's grain and meat?
- Why has Buenos Aires grown to be such a large city?
- Why does Buenos Aires have a warm Christmas and a cool July?
- What does one see in Buenos Aires which shows the important kinds of work carried on in the city?
- What do Patagonia and the Chaco contribute to Argentina's trade? Why?
- Why is Argentina considered a "young" or a "new" country?
- How is Argentina handicapped in developing industries?
- What are some of the problems the people of Argentina face? How may these be solved?
- What common problems have Argentina and the United States to solve?

URUGUAY

- Why is Uruguay noted as one of the most progressive and liberal nations in the world? How has the government helped the farmers? How has it produced cheap power for the people? What other services does the government own? What laws protect workers in Uruguay? Why is it sometimes called "the land of equality"?
- Why is Uruguay a land of ranches? How do the herds compare with those of Argentina?
- What is raised on Uruguay's farm lands? Why?
- Why is Montevideo the chief city?
- How does Uruguay's prosperity depend upon overseas markets?
- To whom does Uruguay sell her products?

PARAGUAY

- What does the fact that Paraguay has the smallest total foreign trade of the South American Republics show?
- Why is Paraguay a poorly developed land? How has being an inland country hampered its development? How have routes of travel to the outside world hindered development? What may the airplane mean to Paraguay? What have her wars meant to Paraguay?

- What kinds of work are carried on in Paraguay? Where? How? Why?
- Why is Asunción a busy city?
- What does Paraguay have to sell to other lands? Why?

Some Additional Appropriate Activities

- Find the English equivalent of Buenos Aires, Montevideo, and other place names in Latin America. How well do the names fit the places?
- Play the Picture Game.* Here are the titles of some pictures. A sugar refinery in the midst of irrigated cane fields; a rubber collector at work in the forest; harvesting wheat with modern machines; cultivating corn; coal miners at work; a herd of beef cattle in a pasture. Which titles suggest scenes typical of Argentina?
- A news item from Buenos Aires reported that Argentina would buy many road-building machines. Ninety per cent of the new machines would be bought in the United States. Why is Argentina interested in building roads? Where do you think most of the roads would be built? What makes road building easy in Argentina? What are the problems in road building in Argentina? Why does the United States have road-building machines to sell? How does this news item show the interdependence of nations?
- This part of South America is often called one of the world's "food baskets." Make a map and graph which will show this.

D. Our Largest Southern Neighbor— Brazil

Introduction

Notice Brazil is called a giant country. What does this name suggest to you about Brazil? Let us make a graph to prove that Brazil is giant in size. Draw a bar eight inches long and one inch wide. Divide it into eight square inches. Label this bar U.S.S.R. In the *Key* show that one square inch equals one million square miles. Draw bars: for China—4 inches; Canada—3½ inches; Brazil—3 inches; United States—3 inches. What will you label each bar? What title will you give your graph? What does the graph tell you about the size of Brazil?

Will you expect Brazil to have a giant population density? Why, or why not? Let us make a second graph to answer this question. Draw five one-inch squares. Label the first China and place 120 dots in it. Label the second United States and place 44 dots in it; the third U.S.S.R. with 22 dots; fourth, Brazil, 13 dots; fifth, Canada, 3 dots. Show in the *Key* that one square inch equals one square mile of land and that one dot equals one person. What title shall we give this graph? What does the graph tell you?

What questions do you want to ask about Brazil? Because the word *giant* appeals to the children,

they will probably want to know: Is Brazil a *giant* in producing crops and goods? What does Brazil produce? Let us plan a trip through Brazil, view the various landscapes and find the solutions to our problems.

Points for Special Emphasis

Within Brazil's vast but sparsely populated land are five distinct natural regions. In Amazonia, most of the people make their living by gathering and distributing forest products, partly because of the dense tropical forest and the river highway. Northeast Brazil is a land of rich soils, a long-growing season, and abundant rainfall. These natural factors plus an early start help explain the "money" crops—cotton, cacao, tobacco, and sugar cane. East central Brazil is the most crowded area. Here the plateau lands are healthier and cooler. Here are rich soils, abundant rainfall, and mineral resources. Coffee is the leading trade crop. Cotton is increasing in importance. Manufacturing is being developed. Southern Brazil is a pioneer land. A great variety of crops can be raised partly because of its location, its level areas of land, and its rich soils. Vast grasslands help make interior Brazil a grazing area. Brazil must solve her problems of education, transportation, and economics before she can make the best use of her resources.

Much that one sees in Brazil today is explained by events of the past. Portuguese seamen explored the coast of Brazil. The first settlements were small and grew slowly. The people were interested in cattle-raising and in mining gold and diamonds. Sugar cane was grown on the plantations. Since there was a scarcity of laborers, Negro slaves were brought to Brazil. Although Brazil grew slowly, in time it became Portugal's most important colony. When the wave of liberty struck the Americas, Brazil became independent. But today her language and many of her customs are still Portuguese.

The friendship of Brazil and the United States should be stressed. It is to our advantage and to that of Brazil to be friendly because we need the products Brazil produces and we are able to provide Brazil with manufactured materials. In addition to this, it is important that the friendship of these two countries be maintained because of the position each holds in the Western Hemisphere.

Problems for Discussion and Study

1. Why is Brazil called the giant although it has a population of only forty million?
2. Why do the people of the Amazon lowland depend upon the forest and the river for a living?

3. Why did it not "pay" Henry Ford to keep his rubber plantation?
4. Why are Manaus and Belem the trade centers of Amazonia?
5. What are the important products of northeastern Brazil? Why?
6. Why is east central Brazil the leading section of present-day Brazil?
7. How is coffee grown and prepared for market?
8. What crops of east central Brazil are gaining importance?
9. Why is Rio de Janeiro Brazil's largest city?
10. Why is southern Brazil a frontier land?
11. Why is interior Brazil an empty land?
12. Why are the minerals of importance to the development of Brazil?
13. Why is manufacturing growing in importance in Brazil?
14. Why do the Brazilians speak Portuguese?
15. How did Brazil get its name?
16. Why is Brazil called the "melting pot" of South America?
17. Why were Negroes brought to Brazil to work on sugar plantations?
18. From what countries have immigrants come to Brazil? Why? What do the immigrants mean to Brazil? Are immigrants still arriving there? Who? Why?
19. What problems face the people of Brazil today? How may they be solved?
20. How did Vasco da Gama and Pedro Cabral help Portugal gain a foothold on South America?
21. In what way is the history of Rio de Janeiro different from that of any other capital of South America?
22. How did Brazil achieve its freedom without war, and what parts did Benito Juarez and Dom Pedro II play in this struggle?
23. How did they declare their independence and in what way was their new republic similar to ours?
24. How did they abolish slavery and how did they provide for the slaves?

Some Appropriate Activities

1. Study pictures in the text and reference books. Find items in the pictures which are in part a result of Brazil's past. For example, a picture showing Negroes working in a sugar cane field suggests that there are many Negro workers in northeast Brazil, partly because the Portuguese engaged in the slave trade.
2. Construct a pioneer's home and the layout of his farm in southern Brazil. Tell why his life, his home, and his work remind you of the pioneers in our early history. What differences are there?
3. Why should Brazil and the United States be friendly neighbors?
4. What do current newspaper and magazine clippings tell us about Brazil?
5. Keep a record of your trip through Brazil on an outline map. Show the cities you visit. Use an appropriate map sign to show the coffee region, the sugar cane lands, and the other crop-producing areas. Indicate where the first settlement was made, the routes of early explorers, and any other data you wish to remember.
6. Have a *Picture Hunt*. Find in text and reference books pictures which show the following: A ship which early Portuguese sailors used; an early Portuguese settlement; a scene on a sugar plantation in early days; Rio de Janeiro as it looks today; a coffee fazenda; a cotton field at harvest time; and a home in Amazonia.

TRANSPORTATION AND COMMUNICATION IN THE AMERICAS

In Grade V the class particularly developed the story of the exploration and settlement of North America. If the Unit on South America precedes this one, they will also have a good idea of the exploration and settlement of South America.

In this Unit they discover the importance of transportation and communication in the development of the Americas. Throughout this unit the emphases should be on how this nation expanded, the relationships involved with other countries during that expansion, those expansions as related to *avenues* of trade and exploration, and how advances in transportation and communication are constantly bringing the Americas closer together.

The development below is partial. The problems given are only for the purpose of giving direction to the teacher's thinking. The possibilities are almost unlimited.

PART I. EARLY AVENUES OF TRANSPORTATION AND COMMUNICATION

A. *Why the earliest explorers "skirted the edges" of the Americas*

1. Why are the earliest explorers heroes of both the Americas?
2. What new sea routes did they blaze?
3. Compare the voyage of one explorer with a transatlantic trip today. How do the routes of travel, the types of transportation, the hardships, and the time required to make the journey compare and contrast?

The stories of Columbus, Cabot, and Magellan will serve to develop the understandings that the discovery of the New World is a story common to all nations of the Americas, that the first travelers on the oceans blazed trails for others to follow and that ways of traveling and comforts of traveling have changed phenomenally during the past five hundred years. If the stories of these three explorers were fully developed in grade five, a brief review of those points studied will suffice; and the work of the explorers in developing transportation routes should be emphasized here.

B. *Why early explorers "rolled back the edges" of the Americas*

1. Why did early explorers penetrate the wilderness of the Americas?
2. What routes of travel did they open?
3. What means of transportation did they use?
4. What Indian civilizations did they find in the Americas?
5. How did the methods of transportation and the means of communication of the Indians and the explorers compare and contrast?

The story of this section of the unit may be developed through a study of the work of Cortez, De Soto, Coronado, Balboa, and De Leon. Do not repeat concepts developed in grade five. Instead, emphasize the hardships endured by

explorers, their routes into the continents, and how Spanish and Indian ways of transportation and means of communication contrasted.

C. *How was Florida settled and developed?*

1. Why did the Spanish own Florida for three hundred years?
2. Why did the Spanish establish the colony of St. Augustine?
3. How did the colonists at St. Augustine carry on trade and communication with Spain?
4. What was a Spanish galleon like?
5. What rule about trade did each Mother Country make for its colonies?
6. Why were the settlers happy to see a ship from home sail into port?
7. Why did the people in different colonies have little chance of getting acquainted?
8. How did Florida become a part of the United States?

Because of Ponce de Leon's work, the Spanish claimed the land that is now called Florida. A group of French Protestants, seeking religious freedom, established a colony in Florida. The Spanish resented this intrusion. A fleet was sent to destroy the colony. St. Augustine was founded.

Spain, like other Mother Countries, did not allow her colonies to trade with other colonies nor with other countries. Travel by land from one colony to another was very difficult. A sea voyage was more comfortable, but it was slow. There was no postal system. For these reasons, the people in different colonies had little opportunity to learn about life in the other colonies.

D. *Why did missionaries follow the explorers inland?*

1. Why did Spanish missionaries penetrate the wilderness?
2. What did the missionaries teach the Indians?
3. Why did the Indians sometimes make war on the missionaries?
4. How did the missionaries talk with the Indians?

Through the study of these questions we want to develop the idea that language, the basic means of communication, is at times a barrier to mutual understanding. The Indians did not know that the missionaries came as friends because the Indians did not know the Spanish language. Today, we do not always fully understand the people of other lands because we do not know their language.

E. *How was the West Coast settled and developed?*

1. What men were sent by Spain to explore the West Coast?
2. Why were the Spanish not interested in California during the next one hundred fifty years?
3. Why did the Spanish decide to build forts at San Diego and Monterey?
4. Why did Father Serra want to go to California?
5. What was mission life in California like?
6. Compare and contrast a journey on El Camino Real in the eighteenth century with a trip on that highway today.
7. Why did ranchmen move to California?
8. What was life on a California ranch like?
9. What products were shipped from California ranches? Why?
10. How did the development of the refrigerated train and ship change this?

11. What signs of Spanish influence does one see today in the landscape of California?
12. Why did the colonists of the eighteenth century on the opposite sides of the continent know little about each other?

The Spanish were looking for a strait from the Pacific to the Atlantic when they explored the coast of California. The riches to the south distracted their attention from the new land. When the Russians took an interest in the West Coast, the Spanish decided to build forts in California.

Missions were established along El Camino Real at intervals of about thirty miles—one day's journey on horseback. One sees the influence of the Spanish in the landscape of California today. Towns and streets have Spanish names. Many of the houses and public buildings show the influence of Spanish architecture. Many of the leading crops are those of Mediterranean Spain. The isolation of the West Coast in the eighteenth century is revealed in the type of product that was shipped from California. The development of the refrigerated train and ship caused great changes in farming and ranching.

F. *How southwest lands became United States' lands*

1. Why did President Jefferson want to buy New Orleans? How had it become French territory?
2. Why did Livingston and Monroe not consult President Jefferson about the purchase of all Louisiana Territory?
3. How did the work of Zebulon Pike interest people in the Southwest?
4. Describe a trader's journey on the Santa Fe Trail.
5. How was Austin's plan for the settlement of Texas carried out?
6. How did Texas become a part of the United States?
7. How did the rest of the Southwest become United States' lands?
8. How did new means of transportation and communication unite East and West?
9. What trails to the West became transcontinental highways?

What trails led to the West and why better ways of transportation and communication were needed are the themes for this section. We discover that Jefferson wanted to buy New Orleans because of its strategic location on the Mississippi and that his ambassadors had to buy all Louisiana without consulting him because communication was so slow. We learn why Americans became interested in the lands of the Southwest and how those lands became part of the United States. We come to realize that improved means of transportation and communication greatly helped the East and West.

PART II. PRESENT AVENUES OF COMMUNICATION AND TRADE

A. *Why it is wise to follow "the Good Neighbor Policy"*

1. What did Thomas Jefferson mean when he said that our government wanted "peace, commerce, and honest friendship with all nations"?
2. How have Canada and the United States shown that neighbor nations may live together in friendship and peace?
3. What did President Monroe do to protect the Americas?
4. What did each of these men do to strengthen friendship in the Americas: Woodrow Wilson, Herbert Hoover, Franklin D. Roosevelt?

5. How does trade link the American nations?

We shall study the history of the "Good Neighbor Policy" and discover why it pays to be good neighbors. We need certain raw materials and certain foods which our American neighbors have to sell. We have a surplus of manufactured goods which our American neighbors buy. The American nations need one another because trade is so important to each nation's development.

B. *How the Pan American Union aids the growth of understanding among the American Nations*

1. How was it organized?
2. Where is its permanent building?
3. What nations belong to it?
4. How does it aid each country to solve its problems of health and sanitation?
5. How did it encourage the building of the Pan-American highway?
6. How does it encourage air transportation?
7. How does it contribute to the welfare of the United States?
8. What can science do to make this a better and a stronger union?
9. What can we do to make this a better union?

When children go to Washington they are impressed with the beautiful Pan-American building. The same dignity and purposes so evident in its architectural structure must be made evident to them in understanding its function; its power in preserving hemisphere solidarity.

They should have the same realization of the functions of the Pan-American highway, air and ocean travel. While these are basically economic projects, their social and cultural implications are of major importance. By the time these children grow up, a week-end in Rio may be as easy to achieve as one in a resort 100 miles away is now.

A study of the geography of Central and South America will show why air transportation is playing such a large part in opening up vast areas there today. Jungles, swamplands, and high mountain ranges have long been barriers to surface transportation. In 1940 one Central American airline carried more than twice as much freight as all United States domestic airlines together. Chicle, ore, and mining machinery are flown to and from remote regions regularly, and the natives hop an airliner as nonchalantly as we take a street-car or a bus.

The teacher should keep in mind that understanding the Pan American Union is similar to understanding her classroom. Her classroom is made up of children each having a different type of economic and social background. She is not only interested in knowing mere facts about the child but also interested in helping him to understand, adjust, and improve himself to the betterment of the group. We should strive to attain this in our Pan American Union.

Our aim should be not only to know the problems of the Americas, but also to use our geographic, historical, and scientific knowledge to promote better understanding and cooperation among the Americas.

Some Appropriate Activities

1. *The Wheel.* Draw a large wheel on wrapping paper. In the center or hub draw a picture showing the invention of the wheel. Between the spokes draw pictures showing the many ways in which we use the wheel today. Discuss this topic: Why the wheel is one of man's most useful inventions.

2. *What Is Power?* The only power man knew long ago was his own muscles. Then he learned to use animals in his work. Gradually he developed many new kinds of power. Plan to make a chart showing the many kinds of power man uses today.
3. *A Time Line.* Divide a long sheet of wrapping paper into equal spaces. Have each space represent ten years. Label the first space—1490; the second—1500; etc. Record in each space important events which occurred in the Americas during that ten-year period. For example, in the space labeled 1540 print these events: De Soto explored our Southeast; Coronado explored our Southwest; Valdivia explored Chile and founded Santiago; Cartier brought a party of settlers to the St. Lawrence.
4. *Make a Then and Now Map of the United States.* Use a wall outline map of the United States showing the boundaries of the states. The outline map shows the United States as it is today. On this map draw the boundaries of the areas originally claimed by England, France, and Spain.
5. Plan and give *Special Reports* on the work of Pedro Alvares Cabral, Cabeza de Vaca, Gaspar de Portola, and other Spanish explorers.
6. *The Autobiography of a Message.* Plan a series of stories which will trace the history of communication in the Americas from Indian days to the present. Each member of the class may write one story. For example, one story may be similar to this: "I am a picture letter. I was written by one of Montezuma's scouts. An Aztec carried me to Montezuma. My pictures told that strange white men had landed on the shore."
7. *Make a Frieze* which will show ways of transportation the Indians used before the coming of the white man, forms of transportation introduced into the Americas from Europe, and types of transportation developed within the United States.
8. *Make a Model* showing the layout of a typical Spanish mission in California during the nineteenth century.
9. *Make a Model* showing the layout of a typical California cattle ranch of the nineteenth century.
10. Trace a shipload of leather from a California cattle ranch to a New England shoe factory in the early nineteenth century.
11. *Make a Picture Dictionary* showing types of transportation or means of communication. Use loose-leaf notebook paper. Mount one picture to a page. Print a suitable title for each picture. Arrange the pages in alphabetical order.
12. *What's in a Name?* Make a dictionary of Spanish place names and their meanings. For example, San Salvador means Holy Savior. (See book, *Names on the Land*, by G. R. Stewart, published by Random House, N. Y., 1945.)
13. *Keep a Name the Man* file box. Get a three-by-five file box and a set of file cards. Write short descriptions of important people on the cards. Use the cards to play a game. Read the description from one card, omitting the person's name. Have the class identify the historical character.
14. *Make a Then and Now Road Map.* Get a road map of the United States from a near-by service station. Use colored crayons to show old roads such as the Santa Fe Trail on the road map. What U. S. highways today follow old roads?
15. *Make a History Tour Map.* Plot on a road map of the United States a tour of former Spanish lands. Indicate historic sites which you will visit on your tour.
16. *Collect Pictures* of one area in the Southwest. Use three colored crayons—one color for Spanish, one for

Indian, and one for American. Circle items in the picture which show the influence of each culture. For example, a picture of a farm in California may show a house built in the style commonly used in Spain; a field of potatoes, a gift from the Indians; and an automobile, an American invention.

17. *Make a Wealth Now and Then Chart.* On a chart show the products which the Spanish considered wealth, and those, such as water power and good soil which we, today, consider wealth.
18. Plan an appropriate program for *Pan-American Day*, April 14.
19. Plan a *Tour on the Pan-American Highway* similar to the tour described in activity No. 15. What parts of the highway can be used now?
20. *Plan and make* diagrams, "motion pictures," or working models that will show "The Story of Transportation," "The Story of Communication," "The Story of the Wheel."
21. *Make a simple telegraph sending instrument.* Experiment sending messages.
22. Plan an *Air Tour of Central and South America.* Secure maps of airline routes and select those you wish to fly. Plot these on an outline map of the Western Hemisphere on which nations and their boundaries are given. Along each route mark the time required to fly between stops and print on the map the name of each city at which you stop. Color similarly the nations which speak the same language.

THE GROWTH OF AMERICAN INSTITUTIONS

This unit should help a child sense the drama of the development and the importance of some of the social institutions that have grown out of democracy and which make democracy grow. In both North and South America people from many origins have come to realize the hopes common to all people in the world. With the diversity of social and economic customs in these countries, a few basic principles of living are necessary if democracy is to grow and be guaranteed to more of the people in a fuller sense.

1. Democracy requires a common widespread general education for all the people. In addition to this general education, which must be democratic in basic concepts, there must be adequate specialized, scientific, and technical training.
2. A free press and radio are required if the people are to be given a real choice in public affairs.
3. Freedom of religion is the basis of democratic feeling and expression.
4. The right to active participation in the political life of the country—voting, party membership, open campaigning, community, state and na-

tional improvements are all basic to self-government.

5. Art, literature, recreation, and music express the real life of the people.

This unit, covering parts of this field, should emphasize these cultural values and thus serve to assist in a better understanding of the status of democracy in both Americas.

There is much material that can be used for this unit in most basal texts, in many library books, in encyclopedias, and within the resources of the community itself.

This would make a good unit upon which to spend the last few weeks of Grade VI.

In a democracy most of the adult people determine big choices in what the government shall do by voting either directly on the question or for men who are for or against doing a certain thing. Some examples of these big choices are government protection of wild life and other resources, old-age pensions and unemployment insurance, aid to European countries after World War II (The Marshall Plan), the building of a new school or city hall. Can you find out from your parents or from books about other examples?

1. Why does a country that depends on the opinion of most of the people require widespread education?

Topics for further study—

Early schools in the American Colonies; in Latin America.
Who attended schools in frontier communities? What kind of education was needed then? Is the same kind needed today?
Voting in colonial days.
Woman suffrage.
Puritan and Quaker beliefs concerning education.
Comparison of early methods of teaching young children with methods used today.
Sources of opinion-making in early days as compared with today's sources. (Pamphlets, letters, committees of correspondence, newspapers, orators)
The literacy problem in the United States.
Teaching the people in Mexico and China to read.
The constitutions of South American countries.
The relationship between technology and the need for education.

2. Why should the newspapers be free from government control in what they print about political news and people's opinions? Should there be any rules about what people may print, say, draw, or paint? If there must be rules, who should make them?

Topics for further study—

Freedom of radio and press in the United States as compared with authoritarian countries.

Displays from local newspapers showing writings and pictures that help the ideas of democracy and representative government.

What indicates that some things are still to be done if democracy is to grow?

Make a set of rules for the management of your group in school.

Should you accept rules made because of dishonesty and fear? Why not let the people who have the highest marks make the rules? Why not some other group?

Show how the problem of making rules is related to the problem of who should vote, speak, or be educated in our country.

Learn about voting procedure and rules in the local elections.

Assemble a list of pictures, writings, or speeches that have had a marked effect on our country's development.

When we examine the great ideas, paintings, music, sculpture, or poems and novels of this nation or any nation we find that the people, or groups of people, who contributed these things of culture, came from many kinds of homes and many different countries.

1. Study or review the home life and training of some of the following people in order to understand the truth of the statement above: George Washington, Thomas Jefferson, Abraham Lincoln, Benjamin Franklin, Edgar Allan Poe, Walt Whitman, Stephen Foster, Benjamin West, Andrew Carnegie, Thaddeus Stevens. (See list in Grade IV for other suggestions.)

Topics for further study—

Relationship between educational opportunity, freedom of the press, speech, and business enterprise, and outlet for creative production.
Creative production and control of production and economy by the few.
Rewards for invention and creative talent.
Patent laws and why patents increase invention.

2. What paintings, sculpture, and music programs are in your communities that the public may attend and enjoy? Do you know any people who write music, fiction, or who paint and draw?

Topics for further study—

Community planning.
Home decoration and landscaping.
Development by the pupils of individual talent shows; personal growth through a medium of expression.
Music and drama culture via radio and television.
Visits to local centers of interest.
Display and programs depicting schools of art; schools of music, such as folk songs, operas or tone poems, drama.
Display and programs of some specific contribution of groups, as mountain music, Pennsylvania German lore, Negro spirituals.

3. Is it worth while for a community to spend money for objects of art for their schools.

public buildings, and public exhibitions? Do the arts add anything to the quality of the home?

Topics for further study—

How artistic objects teach us history and an understanding of people.

Museum pieces from ancient and often primitive cultures.

Landscaping the school grounds.

Beauty spots and eyesores in the community, state and nation.

Community pride and civic projects.

Enjoyment and pride in lovely things.

4. Can you discover how some of our best known paintings and music teach people the lessons of democracy? Can stories and poetry and newspapers do the same thing?

Topics for further study—

Famous historical paintings.

Historical ballads and folk stories.

Historical novels and movies and radio programs for boys and girls.

Pictures, stories, and drama by regions and cultural groups.

Stories of important events in Pennsylvania.

Recreation—in the form of physical activities, arts, libraries, and social events—is an activity that all people in all ages have enjoyed. Forms of recreation vary in different localities. The ways of recreation change in a country as conditions change. In this country we say that proper recreation helps develop a better democracy.

1. What games do we play that help boys and girls learn to abide by the rules and work together?

Topics for further study—

Recreation in pioneer days.

Social events in different regions in earlier days.

How inventions and communications have increased "paid for" recreation.

Differences in amateur and professional rules in sports. Changes in rules in national games.

National games in other countries—especially Latin America.

Libraries as a means of general education.

2. What forms of recreation encourage the people through their government to conserve the natural resources of the land?

Topics for further study—

State and National parks and forests.

Flood and stream pollution.

Fishing and hunting.

The place of recreation by participation as a spectator.

Fire control.

Hobbies that become occupations.

Soil conservation.

¹See Bibliography, pages 156-157, and Appendix.

HOLIDAYS AND SPECIAL DAYS¹

The birthdays of George Washington, February 22, and Abraham Lincoln, February 12, should perhaps receive special emphasis in the sixth grade since these two men are so closely related to the content of the units in this grade. They influenced the Latin American countries in addition to their importance in our own country.

The celebration of the birthdays of Washington and Lincoln is not a new experience for sixth-grade children but the emphasis of this unit may be now. An important aspect to be considered is the effect Washington and his activities had on leaders of other countries and the parallel movements resulting from the leadership of these men. Mexico had its Hidalgo, northern South America its Bolivar, and Argentina its San Martin. Each man was called the George Washington of his country. San Martin and Bolivar both defeated strong armies under adverse circumstances as Washington had done in the United States.

Materials on Washington and on San Martin and Bolivar should be made available for children to read. Some form of dramatics may be employed to culminate this unit.

It is important to emphasize the inter-relationships which have been developed because of the leadership of these men and the related movements for national freedom from the domination of European emperors and armies.

Lincoln's part in freeing the slaves had its counterpart in South America. Brazil and Haiti freed their slaves soon after Lincoln issued the Emancipation Proclamation and the Civil War ended. Benito Juarez, a Zapotec Indian, greatly aided the Indian population by freeing them from the domination of the owners of the haciendas. He was a friend of Abraham Lincoln and, in a sense, played a similar role in Mexico. When Lincoln's life is reviewed in the celebration of his birth, it is advisable to consider his Mexican counterpart.

By drawing these parallels, it is possible to emphasize the wider influence of each of these national heroes and to enrich the celebration of the holidays by considering the South American leaders.

Suggested Problems for Discussion and Study

1. Why do we celebrate the birthdays of Washington and Lincoln?
2. What were their contributions to our American heritage?

3. How did their lives contribute to other nations?
4. When is a man a hero? Give stories to illustrate the heroism of these men.
5. How did the personal lives of Washington and Lincoln serve them well in their performance of public obligations?
6. What were the similarities between the contributions of Washington and Bolivar?
7. How were the activities of San Martin similar to Washington's?
8. What specific influences were felt in other countries as a result of freeing slaves in the United States?

Other days specially related to the work of this grade are—

September 17—Constitution Day. Constitution of the United States signed on this day in 1787.

October—Approximately the 17th—Fall Arbor and Bird Day.

October—Fire Prevention Week—Varies.

October 24—William Penn Day.

November—Early in month—National Book Week.

November—Good Citizens Week—Varies.

November 11—Armistice Day.

November 19—Dedication Day.

December 15—Bill of Rights Day.

January 1—Good Neighbor Day.

February—National Brotherhood Week—Varies.

April 1-11—Free School Day and Week.

April 9—Spring Arbor and Bird Day.

April—Conservation Week (includes April 9)

April 14—Pan-American Day.

April—World Fellowship Week—Varies.

May 11—School Safety Patrol Day.

May—Physical Fitness Week—Varies.

May 18—Citizenship Day.

June 14—Flag Day.

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ILLUSTRATIVE UNITS

These units received from various sections of the State are given to show:

1. That the same content can be organized effectively in several different ways.
2. That teaching units are made for particular situations from general course-of-study or resource units.
3. That units can have different emphases although they use the same general content.

ILLUSTRATIVE UNIT — GRADE II¹ HOW SOME ANIMALS LIVE AND GROW

I. INTRODUCTION

- A. Talk of pets that children have at home.
 1. Some may bring pets to school.
- B. Talk about known animals that are not house pets.
 1. Farm animals.
 2. Wild animals.
- C. Teacher may display animal pictures to arouse interest and questions.
 1. Find pictures that suggest lead questions such as
 - a. Where do you think that baby deer sleeps?
 - b. What did you notice about the frog's tongue?
 - c. Why do cats have such soft paws and sharp claws?
- D. Visit a zoo, fish hatchery, the woods, or a farm to observe different types of animals.

II. DEVELOPING THE UNIT

When pictures and materials have been collected and partially discussed we are ready to find similarities and differences by comparison.

- A. How do feet help different animals?
 1. In securing food.
 - a. Claws (talons) on birds to grasp and tear food.
 - b. Webbed feet to assist animals to swim under water to food.

- c. Non-retractile claws on squirrels and muskrats (front feet) to help in digging for roots and climbing trees.
- d. Retractable claws on cats and wildcats for grasping and tearing.

B. How do mouths help different animals?

1. Specialized tongues.
 - a. Toads and frogs—
Tongue fastened at front of mouth enables animals to obtain food that would otherwise be hard or impossible to get.
 - b. Butterfly—
Long tongue (proboscis).
Tongue has hollow tube through which nectar is sucked from flowers.
 - c. Flicker—
Spearlike tongue can be thrust outward 2½ inches beyond end of bill.
Covered with sticky saliva which catches and holds food.

2. Specialized jaw structures.

- a. Snake—
Lower jaw divided.
Bones of jaw movable, permitting it to open very wide.
- b. Grasshopper—
Grinding jaws.
3. Bills of birds.
 - a. Oyster catcher—
Sharp wedge-shaped bill to force open shells of oysters, clams, and shellfish.
 - b. Ducks (Mallard)—
Broad flat bill.

¹ Adapted from a unit submitted by Carlisle Teachers.

Strainers at sides to use as a sieve to separate mud and foreign objects from food.

4. Teeth.

- a. Meat eaters—wildcat, fox, wolf.

Long pointed front teeth (canines).

Flattened back teeth (molars).

These are for tearing and grinding raw flesh.

- b. Plant eaters—horse, beaver.

Long sharp teeth.

These fit them for biting and gnawing tough, woody plants.

- c. Animals that eat both plants and meat—e.g., opossum.

Teeth which fit them both for biting and chewing plants and for tearing and grinding raw flesh.

C. How are other parts of the body important in food getting?

1. Ears—all animals
2. Eyes—all animals
3. Antennae—insects
4. Spinnerets—spiders
5. Trunk—elephant
6. Neck—giraffe
7. Tentacles—octopus
8. Long legs—wading birds
9. Tail—opossum

III. CORRELATED ACTIVITIES

- A. Draw pictures of different types of animals studied.
- B. Write short sentences about each animal drawn.
- C. Encourage children to bring in stories of animals.

IV. BIBLIOGRAPHY

See page 161.

ILLUSTRATIVE UNIT INTERMEDIATE GRADES¹ THE CHANGING EARTH

I. INTRODUCTION

- A. What changes are taking place on the earth?
- B. What things effect these changes?

¹ Adapted from a unit submitted by Carlisle Teachers.

- C. Bring in pictures of changes that are taking place on the earth's surface.

- D. Talk about changes that man made in building the Pennsylvania Turnpike.

II. ACTIVITIES

- A. Model some hills on sand table to give the children their first ideas of relief maps.
 1. High
 2. Low
 3. Rolling
- B. Pour water over hills to see direction of flow and the force that carries sand along and changes the hills.
- C. Visit a stream in the neighborhood.
 1. Note in what direction the water flows (always downward).
 2. Put in leaves, pieces of wood or toy boats to see whether the water will carry them along.
- D. Find pictures of places where running water has changed the land.
- E. Make a cement block—mix sand and cement with water—put in box and let harden.
- F. Make collections of rocks—sandstone, limestone, shale.
- G. Put muddy water in a glass—watch sand and soil settle to the bottom.
- H. List things that change the earth.

III. DEVELOPING THE UNIT

- A. How our earth's surface varies:
 1. Land—
 - a. Mountains and hills—
Raised parts of the earth's surface
Mountains higher than hills
 - b. Valleys—
Low places between hills
They vary in size and shape
 - c. Plains—
Wide, flat areas of land
Their characteristics vary with their location
 - (1) Deserts — little vegetation — no agriculture—waste land, soil—hard, dry, dusty
 - (2) Grassy plains — abundant vegetation —sheep and cattle raising

2. Water—

- a. Bodies of water that flow across the surface of the earth are called streams.
Brooks or creeks are small streams—brooks are usually narrow—flow down mountains very fast. Creeks are wider—flow much more slowly
Rivers—much wider and deeper
- b. Bodies of water that are surrounded by land are lakes and ponds
Small lakes are called ponds
Shallow lakes or ponds are called swamps
- c. Large bodies of water—
Seas
Oceans

B. Elements that change our earth.

1. Running water—

- a. Wearing away soil and carrying it to different places
- b. Floods—cut deep ditches where land was washed away—build up soil in other places by piling up rocks and soil
- c. Waves—washing against the shore and wearing away rocks and soil—then depositing it at another point

2. Moving air—

- a. Dust storms—talk of how fertile lands can be completely destroyed by dust settling from a dust storm

3. Volcanoes—

- a. Rocks deep in the earth grow hot and melt—then push to the surface, making bumps as big as mountains
Finally break through—overflow and turn back into solid rock
Melted rock is called *lava*
- b. Volcanoes build up the land in some places but do not wear it away

4. Rocks—

- a. How they are formed
Sandstone—little grains of sand
Shale—made from clay
Limestone—formed from shells of water animals

5. The glaciers of long ago—

- a. Great sheets of moving ice crushed everything in their path
Melted to form lakes
Deposited soil and rocks to form hills

C. How man changes the earth.

1. Cuts down forests to make fields

2. Digs canals

3. Digs mines

4. Builds roads—hills cut down and hollows filled in

5. Builds railroads

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ILLUSTRATIVE UNIT GRADES I TO VIII¹

CONSERVATION — TREES AND FORESTS

GENERAL PLANS FOR ALL GRADES

The aims and objectives of Conservation Education may be accomplished in our school program in different ways—

¹ Adapted from a unit submitted by the teachers of Cumru Township, Berks Co.

1. It may become a separate subject or activity, or
2. It may appear in various units in Science and Social Studies.

Whichever plan is used the materials of instruction must have genuine scientific authenticity and should be organized according to pupils' interests and comprehension.

In developing the various phases of conservation, such as—forests, soil, and wild life, we must not lose sight of the over-all picture. Each phase should be developed as a part of a complete program whose major objective is the wise use of our natural resources.

The field trip is one of the most important parts of a conservation education program. It may be either pupil or teacher-initiated, but in either case it needs careful planning. First of all, the teacher must have taken the trip herself so that she is sure her class will find what they are looking for. Letters asking permission to make the visit should be written. Lists of "Things We Want to Look For" should be made. There should be discussions about courtesy and conduct on the trip. Safety rules will need to be emphasized. If the children are very young it may be wise to invite several parents to accompany the group and help to look after them. "Thank You" letters must be written, and, last and probably most important of all, we need to use all the observations wisely and effectively.

The following unit plans are suggestions of what can be done in the elementary grades. Much more material is available.

Procedures, field trips, and activities may vary according to the needs and interests of the group. These are only important in so far as they contribute to developing pupils who not only know something about the need for conservation but who are also willing and eager to do something about it; pupils who know the difference between renewable and nonrenewable resources; pupils who know that conservation is not hoarding any more than it is wasting, but that it is *wise use of natural resources*.

I. MAJOR OBJECTIVES

To encourage, in our schools, attitudes in boys and girls so that they will do all they can about tree and forest conservation now and will do more as they mature.

1. An understanding of the effect of the abundance or scarcity of forests upon the way we live

2. A thorough appreciation of the need for conservation of our trees and forests
3. Development of positive conservation attitudes and habits
4. An understanding and appreciation of the work of the Forest Ranger and Forest Service
5. An increasing knowledge of the growth, use, and value of trees
6. An increasing ability to identify trees
7. An appreciation of the beauty of trees at different seasons of the year
8. An understanding of what is being done about forest conservation in our county, our State, and our nation
9. An understanding of the true meaning of conservation, viz., "wise use, not hoarding"

II. TEACHING AIDS FOR ALL GRADES

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B. Available Free Films

The Forest Ranger (1941). 16 mm., 35 mm., sound, 3 reels, time 30 min. United States Forest Service, Bankers' Securities Bldg., Philadelphia 7, Pennsylvania.

Watching over the one hundred fifty-five National Forests are the Forest Rangers, whose daily duties affect the lives of many Americans. The film gives a composite picture of the Forest Ranger at work from Maine to California and from Washington to Florida.

Forests Forever (1945). 16 mm., sound, 3 reels, time 30 min. United States Forest Service, Bankers' Securities Bldg., Philadelphia 7, Pennsylvania.

This picture shows what can be done to stop destructive cutting practices, to restore and maintain a thrifty growing stock of valuable trees, and to safeguard forest production for the years ahead. In full color.

Story of the Forest. 16 mm., sound, 4 reels, time 40 min. Venard Organization, Peoria 2, Illinois.

This film is valuable for its lesson on the vital part the forest plays in water control and soil erosion. The value of the forest for recreation, the depletion of the

forest by man's greed and thoughtlessness, and his efforts to rebuild the forests are shown.

Trees and Homes (1941). 16 mm., 35 mm., sound, 3 reels, time 28 min. Weyerhaeuser Sales Co., First National Bank Building, Saint Paul 1, Minnesota.

This is a technicolor presentation of logging and lumber manufacture in the Pacific Northwest, demonstrating conservation practices insuring a lumber supply for future generations.

How to Plant a Small Shade Tree. 16 mm., silent, 1 reel, time 12 min. Davey Tree Expert Company, Kent, Ohio.

A kodachrome silent film which shows the step by step procedure to follow in planting shade trees having trunk diameters up to two or three inches. This film was prepared in response to many requests from garden clubs.

From Forest to Fireside. 16 mm., sound, 3 reels, time 35 min. Western Pine Association, Yeon Building, Portland 4, Oregon.

The origin, conversion, and use of products of Ponderosa Pine are shown in this film, including the felling of the timber, a trip through the sawmill, dry kilns, seasoning yards, and planing mills. Conversion of lumber into products used in building and equipping homes is also shown, also work done in the research laboratory.

Romance of Mahogany. 16 mm., silent, 3 reels, time 45 min. Mahogany Association, Inc., 75 East Wacker Drive, Chicago 1, Illinois.

This film takes the audience deep into the jungles of Central America, South America, and the west coast of Africa, showing native life, felling of trees, transportation by manpower, oxen, flood waters, and tractors; then the operations in sawmills.

C. Other Visual Aids—Posters, pamphlets, book marks, stamps, charts

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E. Art Appreciation

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COROT. *Road Through the Trees*.

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PLANS FOR THIS UNIT BY GRADES

NOTE: In the following outlines by grades, additional sections—F, *Music*; G, *Poems*; H, *Books and Stories for Chil-*

dren to Read and Study; I, Stories to Tell to the Children, and J, Stories for Children to Read—were submitted by the cooperating committees. Because of space limitations and because available materials for presenting these Teaching Aids vary throughout the State, the suggestions for F, G, H, I, and J have not been included in this bulletin.

I. GRADE ONE

A. What We Want to Know

1. How trees differ in appearance as the seasons pass
2. How do evergreens differ from other trees?
3. How to recognize a spruce tree by its needles
4. How to recognize an oak tree and learn why it is called the "king of trees"
5. How to recognize the pussy willow and catkin
6. Of what value trees are to us and why we should take care of them

B. Field Trips

1. To see trees in their autumn dress
2. To find an oak tree and note its changes as the seasons pass
3. To find a spruce tree and note difference between it and the oak
4. To find some fruit trees and learn about the fruits they bear

C. Activities

1. Have children bring in fruit for a fruit show and discuss the importance of fruit in our daily diet
2. Have children collect pictures of fruit for a fruit chart and fruit booklets
3. Make a collection of autumn leaves, noting color
4. Make reading charts about field trips, fruit show, etc.
5. Plant acorns to start oak trees

D. Art

1. Free-hand drawing and coloring of fruit
2. Free-hand drawing of trees
3. Paper-tearing lesson on pine trees
4. Draw pine tree and decorate for Christmas tree

E. Vocabulary

apple	highest	blossom
peach	long	bloom
cherry	short	needle
pussy willow	tall	fruit
high	bud	seasons
higher		

II. GRADE TWO

A. What We Want to Know

1. How to recognize the apple, peach, and cherry trees at the different seasons
2. The value of the willow and horse chestnut trees as shade trees in the community
3. How to distinguish the pine tree from other evergreens
4. The value of fruit in our daily diet

B. Field Trips

1. To study the shape, leaves, and bark of fruit trees
2. To note characteristic differences of the pine from other evergreens
3. To see why the willow and the horse chestnut are used as shade trees
4. To see how trees save the soil, prevent erosion, and enrich the soil

C. Activities

1. Prepare a fruit salad and discuss value of fresh fruit
2. Show use of shadow stick in telling direction
3. Plant apple seeds, horse chestnuts, and willow twigs
4. Plant pine trees on school ground on Arbor Day
5. Make charts and booklets about field trips and other activities
6. Dramatize tree stories

D. Art

1. Draw pictures of fruit trees, showing sun and rain as helpers. In the spring, in the fall
2. Make leaf prints
3. Draw pine trees for Christmas decorations
4. Draw willow and horse chestnut trees

E. Vocabulary

bark	fork	willow	low
trunk	chestnut	many	lower
sap	pine	few	lowest

III. GRADE THREE

A. What We Want to Know

1. How to recognize apple, pear, and plum trees
2. How to recognize walnut and hickory trees
3. The value of these trees to us
4. How to distinguish our State tree, the hemlock, from other evergreens

5. Comparative values of maple, tulip, and locust trees as shade trees
6. What makes trees grow?

B. Field Trips

1. Around the community to see the kinds of shade trees used
2. A trip to the woods to see how leaves and twigs rot and become a part of the soil and thus again a part of the trees
3. Study the hemlock and note how its needles and their arrangement differ from the pine and spruce
4. Collect twigs to study leaf scars and buds

C. Activities

1. Collect, press, and identify leaves of the trees of the community
2. Make a leaf chart
3. Make a collection of the various fruits, nuts, acorns, cones, etc.
4. Make a scrapbook showing uses of trees
5. Write a group story on trees
6. Make posters urging care of trees

D. Art

1. Draw pictures to show differences in general shape of trees we have identified
2. Make posters
3. Draw scenes showing how trees add to the beauty of the landscape

E. Vocabulary

hemlock	yew	control
sycamore	osage	leaf scars
larch	keys	

IV. GRADE FOUR

A. What We Want to Know

1. How to identify more trees than we already know
2. How trees propagate
3. The functions of the various parts of the tree
4. How long trees live
5. How forests are being depleted
6. How and why they should be conserved

B. Field Trips

1. To collect leaves and identify trees
2. To note characteristic differences between evergreens
3. To study elm trees and others
4. To a logged woods to see damage done

C. Activities

1. Identify six trees as they appear in the various seasons
2. Study differences of poisonous and non-poisonous sumac
3. Make a booklet showing duties of Forest Ranger
4. Make a chart showing how the seeds and nuts of trees are carried
5. Plant nuts and study growth

D. Art

1. Make leaf prints
2. Make tree book cover
3. Draw the trees we studied
4. Make conservation posters
(a) fire prevention, (b) tree planting, (c) logging, etc.

E. Vocabulary

conservation	identify
propagation	ranger
depletion	

V. GRADE FIVE

A. What We Want to Know

1. How can we tell the age of trees?
2. How can we tell when to cut trees?
3. What products other than lumber, fruit, and nuts do we get from trees?

B. Field Trips

1. Take a trip to a place where trees have been cut to count rings on stumps
2. Take a number of trips to note changes in trees as seasons pass

C. Activities

1. Make a collection of leaves of the neighborhood
2. Collect oak leaves and learn to identify different oaks
3. Bring in cross section of wood to count rings
4. Make leaf prints
5. Make a collection of all sorts of tree products
6. Make a collection of tree poems
7. Try to find some abandoned land and plant trees

D. Art

1. Make a tree book of leaf prints adding illustrations of the general shape of the trees

2. Draw a cross section of a tree to show how to tell the age of the tree

E. Vocabulary

conservation	turpentine	reforestation
forestry	girth	resin
renewable crop	durable	rayon
tannic acid	cambium	

VI. GRADE SIX

A. What We Want to Know

1. How can we distinguish the hemlock from other evergreens?
2. Of what value are trees to us?
3. How are trees propagated?
4. How do they grow?
5. What is the difference between "hardwood" trees and "softwood" trees?
6. Why must lumber be seasoned?
7. What has our country done in forest conservation?
8. What famous historic trees are found in our country?

B. Field Trips

1. Take a trip to collect leaves and identify trees
2. Take a trip to see how trees prevent soil erosion
3. Take a trip to a planing mill to see how lumber is processed
4. Visit a fruit orchard to see how trees are grafted and budded

C. Activities

1. Plant a hemlock tree on the school ground
2. Make leaf prints, put them in booklet form with stories and descriptions of the trees to which they belong
3. Collect and label samples of wood
4. Have a guessing game to identify trees from descriptions given
5. Take part in a paper drive
6. Make a scrapbook of newspaper articles that have to do with forest fires

D. Art

1. Make leaf prints
2. Make book cover and illustrate
3. Draw maps showing national and state forests in Pennsylvania

4. Draw twig showing butt, scales, scale scars, and indicate each year's growth

E. Vocabulary

decomposed	scrawny	erosion
foliage	petrified	gnarled
propagate		

VII. GRADE SEVEN

A. What We Want to Know

1. What are the functions of the various parts of a tree?
2. What are the enemies of trees and forests and how can we protect our trees against them?
3. What trees are famous in United States History?
4. Why is it necessary for the United States to have a well-organized conservation program?
5. How can we become a part of such a program?
6. What is necessary for good tree growth?

B. Field Trips

1. Visit white pine plantings to see effect of disease caused by insects on trees
2. Visit a burned-over forest to see damage done by forest fire

C. Activities

1. Cut a cross section of a tree to study bark, cambium layer, etc.
2. Put part of leaf under microscope to see stomata
3. Plant trees and participate in Arbor Day program
4. Plant a tree at home if space permits

D. Art

1. Make drawings of parts of trees illustrating and labeling junctions
2. Make posters of the Charter Oak and also of Penn's Treaty with the Indians under the elm tree at Kensington

E. Vocabulary

blight	heartwood	grain
fungi	sapwood	blister rust
stomata	bast	San José scale
chlorophyl		

VIII. GRADE EIGHT

A. What We Want to Know

1. Where are the chief forest regions of the world located?
2. What products do they yield?
3. How do trees help to regulate our water supply?
4. What is meant by forest management?
5. What are the requirements, advantages, and disadvantages of Forestry as a career?
6. What help can you get from the Forest Service?
7. Why have State and National Forests been established?
8. What is meant by the "recreational value of forests"?

B. Field Trips

1. Visit Hopewell National Historic Site to see project in reforestation
2. Take a walk around the community to study local trees

C. Activities

1. Plant trees on Arbor Day
2. Plant trees in reforestation plan, aided by Soil Conservation Director
3. Make leaf prints in plaster
4. Make a collection of wood specimens
5. Write to Forestry Service for visual aids and pamphlets
6. Write to The Pennsylvania State College for information about Forestry

D. Art

1. Make a tree map of school grounds and another of the block on which your home is located
2. Draw a map of the world, locating great forest regions
3. Draw a United States map, showing National Forests

E. Vocabulary

veneer	coniferous	oleoresin
cellulose	deciduous	quebracho
viscose	tannin	soluble
medullary		

ILLUSTRATIVE UNIT INTERMEDIATE LEVEL TIOGA COUNTY HISTORY¹

THREE PERIODS—INDIAN, PIONEER, PRESENT DAY

I. OBJECTIVES

A. Knowledges

1. How the Iroquois lived
2. Acquaintance with the Iroquois League and the part it played in the formation of our own Constitution
3. The first white settlers and how they lived
4. Relations between the Indians and the Pioneers
5. Present-day Tioga County
6. Understanding of land usage as determined by Tioga County's surface features and the needs of its people

B. Abilities and Skills

1. Reading maps and charts
2. Map and chart making
3. Finding and selecting material from books
4. Helping in program organization
5. The ability to present to the group accurately and intelligently any information gained from other sources in the county
6. The ability to collect and prepare information concerning known land usages in the immediate environment
7. The ability to evaluate the knowledge gained
8. Greater skill in the oral and written usage of language

C. Appreciations

1. Pride in personal achievement
2. Respect for good work of others
3. Respect for intelligent thinking wherever found
4. Respect for the Iroquois Indians as "Perhaps the best example of a representative government ever evolved by primitive man"
5. Recognition of the Indians and Pioneers as the two groups of people who made possible our life in Tioga County today
6. Pride in our County—its natural beauty and its achievements
7. An appreciation of the great variety of land uses that have been developed in Tioga County

¹ Adapted from units from the State Teachers College at Mansfield.

8. An appreciation of the farmers' skill and adaptability in making the most of their environment.
9. An appreciation of the independence between urban and rural areas.

II. ACTIVITIES

1. Individual booklets including reports and pictures on every phase of Tioga County history studied.
2. Murals depicting phases of Indian and Pioneer life.
3. Three large group maps growing out of the three phases of life in Tioga County, and including such things as geographical features, trails and roads, towns, mines, and industries.
4. Program—This will cover the three phases of history studied and will include dramatizations, songs, and an exhibit and explanation of the group maps.
5. Large group map of land usage in Tioga County.
6. Preparation of individual reports.
7. Letter writing to gather information.
8. Group discussion to determine the important land uses in specific localities.
9. Group discussions to determine how best to represent these land uses.
10. The drawing of proper symbols to represent discovered land uses.
11. The construction of a map of Tioga County.
12. Class discussion to determine proper and attractive color combinations of the map, its symbols, and a suitable border.
13. Written reports on knowledge gained.
14. Special topics concerning the comparative importance of various crops in different sections.
15. Since many of the children live on farms we decided they should report to class upon how land is used on their own farms.
16. Many others have friends and relatives from whom they volunteered to get information concerning other sections in the county.
17. Committees were chosen to get information from the town and college libraries.
18. A committee was chosen to procure and enlarge a suitable map.

III. MATERIALS REQUIRED

1. Books and pictures for children's use.
2. Stories of Indian and Pioneer life.

3. Bibliography for teacher.
4. Maps of Tioga County and Pennsylvania.
5. *My Pennsylvania*—a very attractive book issued by the Pennsylvania State Department of Commerce.
6. A Thesis on Richmond Township, Mr. Alger.
7. Knowledge from the experience of farm children.
8. Knowledge of friends and relatives in other parts of the county.

IV. TOPICS STUDIED

A. Seneca Indians

Approach

Discussion of methods of travel on land:
 a. Trails in summer.
 b. Overland on snowshoes in winter.

Outcomes

Realization of the need of well-marked trails for speedy travel, and situation of same.
 Discussion of probable location of such trails.
 Correctness of expression growing out of participation in these discussions.

What the Children Do

- a. Discuss location of trails and how they were built.
- b. Study maps.
- c. Plan and work out a transportation chapter in individual booklets.
- d. Locate trails on individual and group pictorial maps.
- e. Organize story of trails as one part of our program.
 (Select two children, one to read his chapter, the other to explain the trails on the group map.)

Habits of logical thinking in finding answers to questions.
 An appreciation of Indian work in the planning of our present roads.
 Development of the meaning of cooperation, through planning, sharing ideas and information, and working with a leader in map-making and program-making.
 Knowledge of how to organize oral and written talks.
 Development of ability to talk before the class.
 Knowledge of correct sentence structure.

B. Pioneers of Tioga County

Approach

Discussion of how the first white settlers got into our county.
 Discussion of how they traveled on land after their arrival.

Outcomes

Realization of the difficulties of travel.
 Discussion of the use of trails and the probable outcome of such use.

What the Children Do

- a. Discuss the building of the first roads along the Indian trails.
- b. Discussion of types of roads built and difficulties encountered in building.
- c. Location of first roads on Indian maps to show relationship between the two.
- d. Writing the story of the first roads for booklets.
- e. Organizing the story of the early roads for our program.

Skill in reading and making maps.
 Knowledge of the early roads of our county.
 Appreciation of the hard work required to make the first roads.
 Practice in oral and written English.
 Knowledge of how to write a complete sentence.

C. Tioga County Highways Today

Approach

Discussion of differences between the first roads and our roads today.

Discussion of the need for road repair and certain new roads.

Outcomes

Appreciation of what has been accomplished in road-building since the Williamson road was built.

Present condition of county roads used as an example to show how war slows up progress of civilization.

Interest in roads and road-building.

What the Children Do

a. Discuss modern methods of road-building. (If possible, visit a road under construction.)

b. Discuss care of roads in summer and winter.

c. Study a good Tioga County map and locate main and secondary roads.

d. Make individual and group maps showing the relationship between Indian trails, pioneer roads, and modern roads.

e. Organize the story of our roads today as part of our program.

Knowledge of the location of our roads.

Realization of the need for care of roads in summer and winter.

Appreciation of the care given to our roads by County and State.

Appreciation of the opportunity given us by our good roads to visit our beauty spots.

Practice in talking and writing, with emphasis on good sentences.

D. Land Usage in Tioga County Today

(The county agricultural agent will help develop this.)

V. ASSOCIATED LEARNINGS

A. As the activity progressed we found these needs which formed the basis of several language lessons:

1. Further skill in letter writing.
2. The need for greater skill in organizing and presenting information to the group.
3. Spelling difficulties.
4. Organizing and writing reports.
5. The proper wording of oral and written reports, eliminating poor language usages.

B. During the construction of the product map we discovered needs that were used as the basis for art lessons.

1. Lack of knowledge of pleasing and suitable color combinations.
2. Materials must be chosen from what is available and various experiments with these had to be made to see which effects would be most feasible and pleasing.
3. The enlargement of the map involved learn-

ing the use of carbon paper and the diagonal type of guide lines for enlarging to scale.

4. Greater skill in printing.
5. Greater skill in drawing and coloring symbols.

VI. EVALUATIONS

- A. Throughout this activity we found that our best material came directly out of the knowledge of some of the pupils. This made the giving of individual reports to the class our greatest source of knowledge.
- B. We found that the display of streams smaller than rivers was confusing and not entirely accurate. We eliminated those.
- C. Town children gained an increasing respect for the complexity of farm planning and management.
- D. Country children found great satisfaction in comparing and advising one another as to the most profitable crops to raise in this region.
- E. We developed a respect for those who had the best command of the English language and a more critical regard for and a determination to improve our skill in the use of this tool.

VII. BIBLIOGRAPHY

A. Indian Trails

1. History of Tioga County—P. C. Brown & Co. —1897. (Good information on location of trails.)
2. History of Tioga County, 1804-1886—W. W. Munsell & Co., New York. (Information on trails.)
3. McMasters, G. H.—Pioneer History of Steuben Co., New York—R. S. Underhill & Co. 1853. (Information on trails leading into Tioga County from Steuben Co.)
4. Bradford County. History—Material on Great Sheshequin Trail leading from Bradford County into Tioga County.

B. Pioneer Roads

1. History 1 (above) has particularly good material on the Williamson road.
2. History 2 (above) has excellent material on the following early roads: Surveyor's, Williamson, State, Morris State, and East-West. Also, descriptions of a corduroy road, a plank road, a toll road, and a turnpike.
3. History 3 (above) has material on the Williamson Road.

4. History 4 (above) has material on the Morris and East-West roads.
5. Maps in all of the county histories furnish guides for mapmaking.
6. Compton's Source Material—Unit, Transportation on Land, gives information on how early roads were made.

C. Highways in Tioga County Today

1. Ty-O-Ga, Scenic Trails — Booklet containing maps and pictures of Tioga County published by the Business Men's Association of Mansfield. This is the best material available on Tioga County roads today.
2. Pennsylvania Highways—Booklet containing maps and pictures published by Pennsylvania Department of Highways.
3. Compton's Source Materials—Unit, Transportation on Land, Chapter on Modern Road Building.

ILLUSTRATIVE UNIT — GRADE IV NORWAY¹

I. MAJOR UNDERSTANDING

How the people of Norway adapt their ways of living to a mountainous country by the sea.

II. MOTIVATION (Conversational)

In socialized form, the teacher found out what the children wanted to know about the country they chose to study and discussed what they thought were the possible occupations, climate, surface, natural resources, etc.

On the board, the teacher made a list of the things the class decided to do the following day:

1. Study the globe.
2. Study a simple map of the world using the opaque projector.
3. Discuss means of transportation.
4. Write a note to Miss Mauser (School Nurse), inviting her to give a short talk on Norway.
5. Class chooses two pupils to go to Gosztanyi Travel Bureau on Main Street, to find all information about the trip.

III. METHOD AND CONTENT

The following day, the two children gave their reports on the information received at the Travel Agency. They showed pictures and pamphlets;

and, as a result, the class decided to "travel" by plane. They decided to fly from LaGuardia Field, N. Y., cross the Atlantic Ocean to the Stavanger Air Field, Norway.

Class discussed "How Speed Shrinks the World."

A. Procedure

1. Groups

The children, accustomed to more than one method, were asked what method they wanted to use in the study of this unit. Group work won.

The class was divided in groups according to reading ability:

Group I	Advanced Readers
Group II	Average Readers
Group III	Slower Readers

2. Reasons for grouping

- a. To give needed help in reading and study to the slower readers during the reading period.
- b. The average and advanced readers developed independence in using the more advanced books in comprehension, reasoning, and planning activities.

3. How they prepared their work

- a. The advanced readers were in the same room as the slower readers.
- b. Each child had his own text and other reference materials close at hand.
- c. Books for recreational reading were also added.
- d. The slower readers sat with the teacher with their textbooks, easy recreational reading, and pictures.
- e. After each child of the advanced and average readers completed his own text, he selected another book. Sometimes he read several books. Some books were geographical in emphasis, others were recreational.

4. How they formed into smaller working committees

- a. When the teacher felt the children had mastered the basic plans and scope of the unit, she allowed them to group.
- b. Pupils worked together suggesting, criticizing, discussing, and reaching conclusions.
- c. Groups I and II announced to the teacher they were ready to divide into committees.

¹ Adapted from a unit from Bethlehem Public Schools.

- d. The class was now divided into eight groups.
- e. Getting ready for Socialized Recitation.
- f. Children were all "enthused" with their questions and sand table suggestions.
- g. It was time to divulge the secret they had kept for several days. One group did not tell the others what their plans were. Suspense was great.

B. Advanced Readers

Group I-a (Mary, Anna, Joan, Rosemarie, and Nancy)

Our group decided to tell the story of Erik and Inger in Norway. We enjoyed it very much. We read this story in "Visits in Other Lands," by Atwood and Thomas.

Class: Joan, I think your group told the story in a very interesting manner. You told things in the order in which they happened. Your voices were pleasant and you spoke distinctly.

Class discussion about, "A Land of Five F's"—Fiords, Farms, Forests, Falls, and Fish.

Rosemarie: Since this story is about a farm near a fiord, our group decided to make a sand table. We would like to show a farm near a fiord and perhaps we can add Erik and his sisters taking the cows up to the saeter for the summer.

Class was delighted! They wrote letters to friends telling them about their activity. The girls wrote book reports which were posted on the bulletin board.

Group I-b (Ruth, Dolores, Grace)

Ruth: Who am I? I cut hay with a scythe.

Class: Are you Inger's father?

Dolores: Yes. Why do you think he used a scythe instead of a mowing machine?

Class discussed haying time

Harvesting hay

Drying it on wires

Hauling to barn

Grace and Ruth: What are we? We milk them every morning and then our brother, Erik, takes them to graze in the pasture.

Class: Are you cows grazing in the saeter?

Ruth: Why do the cows go to the saeter in the summer time?

Class: The cows go to the saeter in the summer time to eat the grass that grows there. If they

stayed on the farm, there would be no hay for them to eat in the winter.

This group announced to the class they were going to make clay figures to be added to the sand table.

Group I-c (Robert, Edward)

Dramatized a fishing scene.

They asked the class, "What are we doing?"

Class: Are you fishing? What kind of fish are you catching?

Robert: We are catching codfish.

Class discussed

When the codfish is caught.

What is done with the fish after it is caught.

Kind of fish caught later in the season.

Edward then pretended he was in the ocean north of Norway to catch whales. Whaling was also dramatized.

Robert gave an interesting report on whaling. The two boys carved a few fishing vessels to be placed on the sand table.

C. Average Readers

Group II-a (Theresa, Elsie, Catherine, Bill, and Frances)

Prepared to give talks on Lapland. They used "Children in Lapland," by Thorsmark.

They pretended they were Lapps broadcasting from the Bethlehem Station.

The Public Address System was used. The reproducer was connected in an adjacent room. As a result, the voices were transmitted to the classroom. Pictures were also projected at the same time, using the opaque projector.

A written invitation was extended to the fifth and sixth grades. This group took the responsibility to make a blackboard border illustrating a Lapland scene. Reindeer pulling pulkas. The pulkas were loaded with tents, food, and other belongings.

Group II-b (Robert, Edward, Andrew, and Joseph)

Drew a picture of a hut on the board.

Edward: Who can tell us what this is?

Class: Edward, did you draw a saeter hut?

Robert: Of what material is it built?

Class: Is it built of logs, Edward?

Class discussed

How hut is built

Materials used

Why the roofs are covered with sod

This group announced they were going to make several houses and huts to be placed on the sand table.

Group II-c (Mary Anne, Joyce, and Edwina)

What city are we thinking of?

The sun does not set for about two months in summer and in winter the people don't see the sun for about two months.

Class: Are you thinking of Hammerfest?

Class discussed

Summer in Hammerfest

Winter in Hammerfest

Why it is famous

Leading occupation

Joyce: When we visited this city, we saw ship-building, lumber, wood pulp, matches, and woolen goods factories.

Electricity is also made there.

What city did we visit?

Class: Did you visit Oslo?

Edwina: I am thinking of a city that is the center of the fishing industry.

Class: Are you thinking of Bergen?

Joyce: Why is Bergen a great fishing center?

Joyce and Edwina showed a film strip on Norway describing the three cities. They also showed pictures, using the opaque projector.

D. Slower Readers

Group III-a (Dolores, Louise, and Anthony)

Anthony: Skim to find out—Why do most of the people of Norway live in the southeastern part of the country?

Dolores: Skim to find out—Why there are many waterfalls in Norway.

Louise: Skim to find out—Why there are many factories in Norway.

Group III-b (Robert, Harold, James, and Gloria)

This group collected interesting pictures about Norway.

They used the opaque projector.

While the pictures were being projected, the group asked the class if they could tell where the pictures were taken.

Class discussion followed after each picture was projected.

One thirty-minute period and sometimes two periods were devoted to the presentation of each group.

E. Conclusion

1. After the group reporting was completed, the class prepared a program consisting of the following:

a. Dramatizations of stories read by the class

"Olga of Norway," by F. McCrady

"White Reindeer," by Neil James

"It Happened in Norway," by M. O'Donnell

b. Dances

"Tantoli," by D. Stevens

"Seven Steps," by D. Stevens

"The Peasant Song" — Class originated steps for this tune

c. Songs

A group sang "The Northman," by Maurice Talbot

Class sang an original song

2. Class organized into Geography Club. They gave reports on Norway, Greece, Italy, and Switzerland.

3. Children pretended they were touring Norway. Wrote letters to friends in Bethlehem telling about their experiences and included snapshots from Norway and original illustrations.

4. The following test was given

a. Write the name of each word beginning with "F" after the phrase describing it.
Long, narrow arms of the sea, reaching inland from the coast. F—

Erik and Inger live on one of these. F—
These cover the lower slopes of the mountains. F—

Streams of water that tumble down the mountainsides. F—

These swim in the Norwegian waters. F—

b. After each of these facts, write the number of the reason which explains it.

FACTS

REASONS

The Norwegians like bright colors inside their houses.

1. It is piped into the house from a stream that rushes down the mountainside.

Erik and Inger can have running water in their houses.

2. Much of the time it is stormy and dull outside.

It is cooler on the saeter than on Erik's farm.

3. Because the saeter is much higher than the farm by the fjord.

c. Cross out the words or phrases that make these sentences wrong

Two foods which the Norwegian farmers buy because their farms cannot supply them are: butter and cheese—carrots and potatoes—coffee and sugar.

Most of the cheese that Inger's mother makes during the summer is stored in the stabbur—taken to the hut on the saeter—sold in the village.

- d. Each of these sentences needs an ending. Finish each one correctly.

(1) Fish merchants in Bergen send boats to the place where the herring are "running" because _____

(2) Erik's father dries the herring he takes home because _____

- e. Write the correct word after each definition

(1) A long, narrow arm of the sea _____

(2) A mountain pasture _____

(3) A rocky island that protects the coast _____

- f. Answer each of these questions with either "Yes" or "No"

(1) Does the midnight sun mean that the sun shines at midnight?

(2) Is the part of Norway north of the Arctic Circle a "Land of the Midnight Sun?"

- g. Why have many Norwegians become fishermen?

- h. Where do most of the people of Norway live? Why?

- i. Tell one interesting fact about each of these cities:

Bergen, Oslo, Hammerfest

- j. Would you enjoy a summer at a saeter? Why or why not?

IV. EDUCATIONAL MATERIALS

Visual

"Ingrid in Norway"—film strip, Eastman Kodak Co., Rochester, N. Y.

"Norway"—film strip, Eastman Kodak Co., Rochester, N. Y.

2"x2" slides—Eastman Kodak Co., Rochester, N. Y.

Slides and Stereographs—(Keystone Co., Meadville, Pa., "Norway, A Mountainous Country by the Sea.")

Flat Pictures.

Auditory

Miss Mauser gave a short talk on Norway.

Mrs. Sorteberg, a Norwegian, gave an interesting talk on Norway and showed articles which were made in Norway.

V. BIBLIOGRAPHY

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Several basal texts

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THORSMARK. *Children in Lapland*. McNally, Chicago, Ill.

Teacher's References

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Norway. Edited by Hans Olav and Tor Gjesdal; printed in the U. S. A. by Arnesen Press, 6515 Fifth Avenue, Brooklyn, N. Y., 1941.

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Collier's World Atlas and Gazetteer. Collier Corporation, New York City.

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Norway and Norwegians, Vol. XIV, June, 1924, pp. 647-696. F. M. EGAN.

Life in a Norway Valley, Vol. LXVII, May, 1935, pp. 627-648. A. P. DENNIS.

VI. EVALUATION OF OUTCOMES

A. Knowledge, Understandings, Appreciations

1. Enjoyment in planning for the pleasure of the group.
2. Growth in independence and responsibility.
3. The children appreciate and evaluate work done by the group.
4. How natural conditions influence life.
5. How people live and work in a community.
6. How human resources are conserved.

B. Skills, Abilities, and Habits

1. Use of reference books, texts, magazines, encyclopedia, newspapers, pamphlets, and dictionary.
2. Finding new materials for reference.
3. Locating materials through the use of the table of contents and index.
4. Ability to read with ease and understanding.
5. Answering questions through reading.
6. Making notes on material read.
7. Interpreting the use of charts, maps, and graphs.
8. Ability to read maps, graphs, and charts.
9. Ability to locate on a relief map: valleys, mountains, rivers, lakes, and bays.
10. Using books for illustrative materials.
11. Using film strip projector, opaque projector, slide projector, and stereographs successfully.
12. Greater freedom and ease in giving reports.
13. Gaining confidence in conversational groups.
14. Ability to use the method of democratic discussion.
15. Ability to think and talk to the point during discussion.
16. Being courteous in conversation.
17. Being a good listener.
18. The habit of being courteous.
19. Ability to think for themselves.
20. Being neat.
21. Ability to listen to radio programs to secure information.
22. Ability to plan programs.
23. Ability to judge work.

C. Attitudes

1. A broader realization of the worth and enjoyment of working together.
2. A greater consideration for the opinions of others in the group.
3. Preparing and presenting things for the enjoyment of the group.
4. A desire to learn as much information as possible about the country being studied.
5. A questioning attitude.
6. A sympathy for the problems of other countries.
7. Desire to know more about the lives of other people.

8. An understanding that people's lives and customs are affected by their geographic position, the climate, and the location of natural resources.

AN ILLUSTRATIVE UNIT — GRADE V THE STUDY OF COTTON¹

I. INTRODUCTION

The children were especially anxious to begin the study of the Southeastern United States. Prior to their introduction to this area, they had been studying those states west of the Mississippi, and each time our journey east would take us to the Mississippi, I would have them "Halt"—with special instructions "not to cross the Mississippi." They finally became so eager to "get across the river" that they almost begged to go into the new region. They lived every minute of the journey through the South and became deeply interested in the cotton plant. Pictures of the different steps in the cultivation of cotton were placed about the room, but I was careful not to have these pictures labeled. First one child and then another would study the pictures and the questions began to fly. One child had seen a picture in a book similar to one placed on the bulletin board—his search was productive. Others followed his lead and the road was open to study cotton.

The children themselves suggested the major problems that they wished to study. Committees were selected by the students and the work was begun. The study was enhanced by a trip to the special education room to see the looms being operated by those children. The Fifth Grade wanted to weave, and they did just that! The special education students acted as the instructors and such cooperation was a joy to watch.

They didn't follow the cotton as an export outside the United States. They followed the cotton to the mills in New England, but decided to wait until they reached a more advanced grade to follow it any further.

II. OBJECTIVES

A. Attitudes and Appreciations

1. An intelligent attitude toward analyzing problems and facts.
2. An alert sense of the values of planning and evaluating one's own and one another's suggestions and constructions.

¹Adapted from a unit of the State Teachers College at California.

3. An inquiring attitude toward the importance of cotton to our country and to each individual.
4. A fine spirit of appreciation and good will toward others who contribute to one's comfort.
5. A sense of appreciation of the interdependence of people.
6. An inquiring attitude toward the home conditions, the family life in this "cotton country."

B. Knowledge and Understanding of

1. The sources of cotton.
2. The essential facts in the production of cotton.
3. The effects and uses of the natural environment in working and living in the cotton belt.
4. The essential facts in making cotton goods.
5. The by-products of cotton and their uses.
6. Recognition of various cotton materials.
7. The labor involved in the production of cotton products.
8. The basic needs of clothing.
9. Recognition of the relative cost of clothing the family and of the means of cutting down expenses.

C. Abilities

1. To make intelligent observations and to interpret, and to make functional those observations.
2. To interpret through concrete experiences.
3. To interpret their immediate natural environment in relation to other environments.
4. To interpret information, problems, maps.
5. To read various types of maps, as physical, political, and rainfall.
6. To illustrate and clarify ideas through various media of expression.

III. INSTRUCTIONAL MATERIALS

A. Books and Stories for Children

B. Teachers' References

C. Audio-Visual Aids

D. Community resources and some resources, agencies, and individuals beyond the immediate vicinity.

E. Maps

Physical Map—United States
 Political Map—United States
 Outline Maps—enlarged, pupil's desk size
 Globe—political, slated
 Air—photography

IV. NEW CONCEPTS AND VOCABULARY

Cotton gin	Woof
Boll weevil	Ravel
Carding	Bolls
By-products	Eli Whitney
Bale	Lint
Fibers	Bobbin
Suction	Overseer
Card Sliver	Croppers
Drawing frames	Bumper
Warp	Cultivated

V. EVALUATION

- A. "Cooperative situations" between the teacher and pupils were carried out during the entire unit. In addition "cooperative situations" were carried on between pupils of the fifth grade and the special education room. Children learned cooperation by actually cooperating.
- B. Development of abilities
 1. Increased ability to organize specific and general information gained from reading pamphlets, supplementary texts, and periodicals.
 2. Increased ability to interpret and construct maps, graphs, and charts.
 3. Increased ability to cope with lifelike situations.
- C. The class gained functional information and knowledge.
 1. An enriched background concerning the importance and value of cotton.
 2. Some of the reasons why most of the cotton mills have been moved to the South.
 3. Recognition of many articles made from cotton and cotton seed.
 4. The geographic conditions that favor cotton production and distribution.
 5. Recognition of materials of which most of their clothing is made, and why.
 6. How the boll weevil helps the South.
 7. How cotton helps to improve our health.
 8. How cotton fibers were torn from the seeds before the gins were invented.

(Continued on page 276)

VI. ASSOCIATIVE LEARNINGS

Theme: Why Cotton Is Important to the South and Other Regions of the United States

PROBLEM	SOURCES OF INFORMATION	GEOGRAPHIC UNDERSTANDINGS	TEACHER ACTIVITIES	CHILDREN ACTIVITIES						
I Where Cotton Belt is located	Maps: Distribution maps Word matter: Text and references	States included in the Cotton Belt Location in respect to other parts of the United States	Supply approved and appropriate maps: Outline Political-Physical	Locate Cotton Belt on hectographed outline maps drawn to scale Make relief map on sand table Globe (slate) Locate Cotton Belt						
II. How Cotton is Raised	Pictures Text Reference Books	Culture Items Activities Knowledge of planting, cultivating, and picking cotton and distributing the product Hazard of production Nature Items In each instance the related season is associated with the activity	Contacting museums (Philadelphia) for information concerning available materials for which children can write Supplying pictures and reading materials	Sand table—plantation Frieze—pictures drawn by children illustrating how cotton is raised Bulletin board — children in charge (training for organization—all material collected by children)						
III Uses of Cotton (Raw and Cloth) and By-products	Pictures Word Matter References Pamphlets Text	Why by-products are important Conservation or purposeful use of seeds as well as cotton fiber Importance of soil conservation to area	Teacher will have raw cotton for children to examine	Examining of cotton (raw) Exhibit of cotton cloth Exhibit of by-products						
IV How Cotton Cloth is Made	Pictures References Text	Location of textile mills relative to: Nearness to raw materials Water supply for dyeing Water power and other power	Show films Planning excursion to Special Education Room Planning trip to Penn Craft Mills	Children weaving on various types of looms taught by children of the special class Children dyeing cloth Tie and dye Head scarf Doilies Handkerchiefs						
V. Why Cotton Became Important in the South	References Maps	Nature Items—features and conditions Climate—growing season of at least six months Plenty of water during growing season Soil—sandy, loam Extensive level land Culture Item— Source of labor Much hand labor Negroes and Whites Historical background		Maps—showing rainfall and surface patterns Examine specimens of soil Experiments—Plant Cotton in Soil Suitable for Raising Cotton						
				<table><tr><td>1</td><td>2</td><td>3</td></tr><tr><td>Seed receives right amount of sun, water and light</td><td>Seed receives right amount of water and light</td><td>Seed receives right amount of sun and light</td></tr></table>	1	2	3	Seed receives right amount of sun, water and light	Seed receives right amount of water and light	Seed receives right amount of sun and light
1	2	3								
Seed receives right amount of sun, water and light	Seed receives right amount of water and light	Seed receives right amount of sun and light								

VI. ASSOCIATIVE LEARNINGS (Continued)

Theme: Why Cotton Is Important to the South and Other Regions of the United States

ARITHMETIC	LANGUAGE ARTS	HISTORY AND SCIENCE	MUSIC	ART AND OTHER HAND CRAFTS	HEALTH AND PHYSICAL EDUCATION
Use of ruler	Read textbooks and reference books Give oral and written reports Make individual and group compositions for booklets and charts Learn to capitalize names of states, capitals, and important rivers Read <i>Uncle Tom's Cabin</i>		"The Levee Song" from Fifth Book of Songs, by Foresman	Construction of booklet covers	Dance: Johnny Crack Corn
Computing cost of cotton per bale Determining amount of seed necessary for land available	Read textbooks and reference books Write group compositions for booklets Write letters for specimens and other materials Develop new terms—overseer, cultivated, croppers, tenant, bumper, etc.	History of the cotton gin Experiment with soils and growing of the plant	"Old Plantation Days" from <i>The Music Hour</i> Third Book, Silver-Burdett	Plantation scene for frieze Artistic arrangement of bulletin board Illustrations for booklets	Creative dancing Adapting dance to music—depicting steps in the raising of cotton
Comparison of production of cotton in Cotton Belt states Comparison of prices for different by-products Comparison of importance of by-products Graphs—uses and interpretation	Keep a diary of week's work not only concerning the cotton but also of other activities during the week Read references concerning the problem Arrange news bulletin board—children's contribution, organization and production	Crushing cotton seed to see the oil come out			
Problems involving the buying of material by bolt, yard, etc.	Read experience stories Weaving Dyeing	History of weaving History of dyeing		Frieze depicting stages of development in the making of cotton cloth Tie and dye	Square dances
Use scale on map—involving use of the ruler	Read textbook material and reference material Cumulative list of new words learned during the study of cotton Careful spelling in written work	History of cotton	"O! Susanna" "Dixie" "Old Folks at Home"	Making necessary equipment for experiments	Folk Dance Virginia Reel

(Continued from page 273)

- D. There were indications of the strengthening of democratic beliefs and attitudes.
1. A more wholesome and tolerant attitude toward each race in a democracy.
 2. A feeling of the need for cooperation.
 3. Increased ability in independent problem-solving, such as determining the best type of soil suitable for cotton-raising through series of experiments.
 4. Increased ability in keeping cumulative records by children and teacher for future reference.
 5. Increased ability to collect pictures or other data to illustrate an article or selection.
 6. Increased desire and ability to locate needed references.
 7. Increased ability in selection and rejection of materials at the child's disposal.
- E. The children gained in awareness in interacting with their environment.
1. A keener sense of value in the selection of cotton materials in everyday life.
 2. A better understanding of how dependent upon cotton every family is for clothing, bedding, household fabrics, sewing thread, bandages, etc.
 3. Ability to apply ideas gained from reading to *new* situations.
- F. There were indications of the development of character.
1. Children do not give up easily when confronted with a difficulty.
 2. Children show increasing habits of courtesy.
 3. Children have developed the attitude of co-operation.

VII. BIBLIOGRAPHY

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¹From a Unit submitted by the Allentown Public Schools.

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ILLUSTRATIVE UNIT

GRADES I and II

THE GROCERY MAN AND THE STORE¹

I. APPROACH

- A. The children were talking about foods, when Eric said, "I know where we get carrots just now." He told us where his father bought the carrots. The children then asked Eric where his father bought other fruits and vegetables. It was finally decided that it would be a good plan to visit the grocery store that Eric's father kept and learn more about where other foods came from. The children decided how to behave and what questions to ask Eric's parents.

Rules for behavior

1. Do not touch things
2. Talk in moderate tones
3. Avoid pushing
4. One child speak at a time
5. Stay in line
6. Cross only at crossings
7. Watch traffic
8. Keep off other people's property

Questions to be asked

1. Do you sell butter? Where? From whom do you get it? How often?
2. Do you sell apples? Meat? Ice cream?
3. What kind of cereals do you have? Where do you get cereals?
4. What kind of bread do you sell?
5. Where do you buy poultry, eggs, honey, cheese, cider vinegar, oil, lard, fish?

II. LEARNINGS

A. When we arrived at the store Eric's parents were ready for us. They were very helpful. They showed the children the refrigeration system, scales, cash register, slicer, etc. Then the children began to ask questions—quite a few that had not been placed on the blackboard. Here are some of the questions they asked:

1. When do you open your store?
2. When do you close it?
3. When is the busiest time of the day?
4. When do you work the harder, in summer or in winter?
5. Do you make any money?

B. When it was time to leave, Eric's parents gave each child a lollipop. Such excitement!

The trip to the grocery store was enjoyed by all the children, and when we returned to our room, there was a general discussion about the things we learned. The conversation of our trip was placed on charts.

III. INTEGRATION

A. Reading

1. Reading of charts and blackboard
2. The following books
Jimmy the Grocery Man
Monday, Tuesday, Wednesday
Ted and Nina Go to the Grocery Store
The Little Story Book
Down Our Street

B. Language

1. Chart—a visit to the grocery store
2. Poems
3. Class riddles and individual riddles
4. Original stories

C. Hygiene

1. Cleanliness in and out of the store
2. Personal health
3. No dogs allowed

4. Use of glass covers
5. Foods kept in containers like boxes, cans, cases
6. Store free from flies and insects
7. How do flies and insects hurt food? What to do about it?

D. Vocabulary

grocer	apple	oranges	doggies	pepper
bread	milk	soda	bacon	salt
butter	coffee	ice cream	cheese	salad
cocoa	tea	meat	jello	lemon
corn	oats	peach	peanut	flour
celery	peas	soup	rolls	sugar
beets	beans	lettuce	jelly	nuts
ketchup	ham	buttermilk	beef	honey

E. Arithmetic

The children learned problems in addition, subtraction, and multiplication. Here are some of them

1. What things are sold in bottles, cardboard packages, paper bags, cloth bags, cans?
2. What things are sold by the pound, half-pound, dozen, half-dozen, quart, pint?
3. Four apples and nine apples are apples
4. Two peaches and five peaches are . . . peaches
5. John bought an ice cream cone for 6 cents and a bottle of coca-cola for 5 cents. How much did he pay for both?
6. A candy bar costs 6 cents. How much will two candy bars cost?
7. Jean had 15 cents. She bought a quart of milk for 12 cents. Her change was . . . cents.
8. We also had column addition. This is a sample:

milk	12¢	candy	10¢
butter	69¢	gum	10¢
bread	15¢	dried beef	33¢

9. A box of crackers costs .25 and a dozen oranges .55. Together they cost .80. (To develop cent decimal.)
10. Mother gave Janice \$2.00. She bought meat that cost \$1.00. Her change was \$1.00. (To develop dollar and decimal marks.)

IV. EVALUATIONS

- A. Through the visit we learned that we are dependent on quite a few other people, for instance the baker, the miller, the butcher, the dairyman, and the farmer.
- B. Geography — Location of store — In what direction to go, what direction to come back? (north, east, south, west?)

C. Objective tests

1. Completion (recall, listing, short answers)
2. Multiple choice
3. Matching
4. True and false
5. Riddles (making correct answers when riddles were completed)

D. The Culmination

1. A frieze
2. Charts

ILLUSTRATIVE UNIT — GRADE III COMMUNICATION¹

Content Outline

Note: This is a suggestive outline, to be used as the interests of the class and the scope of the unit indicate. No one third grade class should attempt to cover all of it.

I. HOW MESSAGES ARE SENT

A. Long Ago

Visual Messages

1. Beacon lights
2. Smoke signals
3. Gestures
4. Picture writing
 - Carved on rocks
 - Printed on clay
 - On papyrus
 - On skins of animals
5. Blazes on trees
6. Pointing arrows
7. Knotted cords
8. Notched sticks
9. Signalling by flags
10. Light signals
 - Flares—rockets
 - Mirrors

Auditory (ear)

1. Drums
2. Bells
3. Lyrics sung in streets

B. Modern

Visual Messages

1. Light signals
 - Trainmen's lanterns
 - Flashlights
 - Colored lights (traffic signals)
2. Writing and printing
 - a. Letters and written messages
 - Mail
 - Messengers
 - Carrier pigeons
 - b. Printed messages
 - Newspapers
 - Bulletins
 - Circulars
 - Magazines
 - Handbills
 - Pictures—billboards

Auditory (ear)

1. Talking and shouting
2. Horns
3. Trumpets
4. Bells and whistles
5. Telephone
6. Radio
7. Telegraph and cable
8. Music (bugle calls)
9. Guns (salutes)
10. Sound pictures
11. Phonograph

Special Means of Communication

1. Braille (communication to the blind)
2. Television

II. THE POST OFFICE

A. What happens to a letter in the U. S. Mails?

1. Letter deposited in a collection box
2. Collected by mailman
3. Travels through a post office where with others it is:
 - a. Sorted
 - b. Postmarked
 - c. Distributed
 - To lockbox or carrier's bag
 - To a sack for further travel
4. Its journey from the post office
 - To local mailboxes
 - To train or boat or plane

¹From a Unit submitted by the Bristol Township School, Bucks County.

5. Its progress on a train, boat, or plane

- Sorting
- Placement

6. Its arrival at its destination

- Carried by rural carrier
- Carried by city postman
- Called for at post office

B. Cost of Postal Service

- 1. Kinds of stamps and values
- 2. Salaries of postal employees
- 3. Upkeep of buildings
- 4. Replacement of trucks and other vehicles

C. Tracing route covered by a letter

- 1. Map study
- 2. Distances in miles
- 3. Rate of speed and time consumed

III. INVENTIONS FOR MORE RAPID COMMUNICATIONS

Note: To be used as desired. The historical information at third-grade level should be kept very simple, and should not be studied in great detail. Certainly third-grade children should not be tested for their retention of such details as suggested here.

A. Telegraph

- 1. Early attempts
- 2. Morse's first work
- 3. Modern improvements

B. The Atlantic Cable

- 1. Field's idea
- 2. Attempts to lay cable
- 3. Importance of telegraph and cable

C. The Telephone

- 1. Work of Bell and Watson
- 2. Exhibit at Philadelphia Centennial
- 3. Development of modern telephone services

D. Mail

- 1. Beginnings of postal system
- 2. Postal system in early America
- 3. Development of postal system
- 4. Modern ways of handling mail
 - Canceling
 - Sorting
 - Facing
 - Delivering
 - Classes of mail
 - Money orders
 - Special delivery mail and parcel post
 - Parcel post
 - Registered letters

E. Newspapers and magazines

- 1. Early newspapers
- 2. How news is collected
- 3. How paper is made
- 4. How a paper is printed
- 5. Printing of pictures (those sent by telegraph)

F. Television

- 1. A recent invention
- 2. How it works
- 3. First attempts

G. Radio

- 1. History of radio
- 2. Importance of radio

H. Wireless

- 1. Invention of wireless
- 2. Relation of wireless and radio

I. Motion Pictures

- 1. How a picture is made
- 2. Importance of motion pictures

J. Phonograph

- 1. Invention
- 2. How records are made

IV. SCIENCE EXPERIMENTS

A. What is sound?

- 1. Listening to a tuning fork
- 2. Feeling a tuning fork
- 3. Striking a knitting needle
- 4. Putting tuning fork in water after striking it
- 5. Plucking a rubber band
- 6. Listening to a silver fork and a wooden-handled fork

B. Results of experiments

- 1. Sound is vibration
- 2. When something vibrates, air near it vibrates
- 3. When we hear something, the air is vibrating

Activities

I. POSSIBLE ACTIVITIES

- 1. The telegraph—A small telegraph set was brought in and the pupils learned a few sounds
- 2. The telephone—An old telephone set was used for play calls; a toy set was brought; a "walkie-talkie" set was used by the children
- 3. Messenger boys—Children wrote messages to one another. Messenger boys delivered the messages

4. Writing telegrams
5. Composing verses to use on valentines, birthday cards, or cards for the sick
6. Making and using money to pay for stamps
7. Making stamps
8. Reading stories about various relevant topics
9. Reading from charts about the progress of the unit
10. Make a class newspaper
11. Make a tin can telephone
12. Learn Morse Code
13. Make oilcloth map of airmail routes
14. Learn the names for sections of newspapers—Divide class into committees, each section bring in the section assigned from the newspaper
15. Make play post office

II. CULMINATING ACTIVITIES

1. Plan a radio program with a homemade microphone
 - a. Select announcer for program
 - b. Plan program to include stories, poems, jokes, songs, questions and answers concerning communication
2. Display communication booklets
3. Read stories from charts

ILLUSTRATIVE UNIT — GRADE V¹ OIL

I. AN OIL UNIT IS BORN

On March, 1946, when Pvt. Richard N. Doll got home from war he wanted peace—but he found his fifth graders still at war. They were getting in the fats, and the paper, and the other salvage. Even the children hadn't been too young for war. This fact shocked Pvt. Doll. He figured that his school children were veterans, too, just the same as he was. Most of their lives, so far as they could remember, had been marked by war activities: scrap drives of various kinds; Junior Red Cross work; doing without butter; taking part in air-raid drills; and hearing their parents discuss lack of gasoline, donations of blood, letters from the battle fronts, atomic bombs, and the like. Death had touched them, too; older brothers, fathers, uncles, the fourth grade

teacher's brother, and friends had died at war. They had listened to the radio, too. They knew war.

In planning the fat-salvage drive, Pvt. Doll told the children how important oils and fats are in winning a war—and a peace. Since the children were "playing airplanes" all the time, he pointed out how important oil is in the business of flying. The war couldn't have been won by the Allies if it hadn't been for oil. Oil could help win a peace, too, if it could be used for good and not for ill. Pvt. Doll had a friend, a Merrill Marauder, a York Tech-Sergeant, who had fought in the China-Burma-India theatre of war; this Marauder knew the part oil was playing, had played, and would play over there, in war or peace. Could they see this Marauder? and hear him talk? Pvt. Doll thought that they could after the fat drive; they'd invite him to the school to talk.

The Marauder agreed to come to the school. Maybe the youngsters wouldn't have to go to war—as the last two generations had had to do. Something ought to be done about that. The two GI's made some curriculum plans. Private Doll knew how to handle the curriculum. The Marauder had been a correspondent bringing in the news from the jungle fighting and other operations while in the war. He would do some map work, and would tell the children facts about oil and war and peace and the people in those other countries—he'd tell them about Burma and Rangoon and Mandalay, some facts about oil in Iran; about Russia. His outfit had seen quite a lot. The Marauder came to the school, and he and the children sketched a map of the countries that he had seen, the locations of the oil in those far-off places. He told them about the need for oil in fighting. He said that the use of oil is actually a part of nearly everything that people use or do: plastics, medicine, ammunition, machinery; flying, transportation, etc. He told about the people in far-off places, of their needs for oil—and the many things made from oil.

II. PUPIL ACTIVITIES IN THE UNIT

A. Questions Raised

After the children had "got in the fats," and worked with their teacher and the Marauder on oil, their own work on the oil unit began to take shape. One of the first things that they did was to make a list of questions about oil.

These questions were formulated, discussed, and answered—and many more questions on oil were

¹Adapted from a Unit submitted by the York Public Schools.

formulated, discussed, and answered before the work on the oil unit came to a close—

1. Are fats the same as oils?
2. What all did oil do to help win the war?
3. Is oil a fat?
4. Where does oil come from?
5. What makes oil?
6. Did oil cause this war? Will it cause peace, too?
7. When did people get oil?
8. How is oil found? Where do you look for oil?
9. When the Indians had this country did they have oil?
10. In how many ways is oil used in our homes, our schools, and in our town of York?

B. Work of Pupil Committees

When the need for some specialized chore or work arose in the oil unit, a task force committee with its chairman and members was appointed by the group to undertake the mission. There were task forces on—

1. Making trips to the library, and the filling stations
2. Writing letters to: Congressman, oil companies, filling stations, and other concerns for pamphlets, maps, exhibits, books, circulars, picture illustrations about oil
3. Bringing in oil samples
4. Constructing oil derricks, Drake's first well, Drake's museum, etc.
5. Finding facts regarding moot questions
6. Working on the various charts
7. Working on maps
8. Painting friezes, murals, and easel pictures
9. Getting up a program to show the other children of the school some of the interesting highlights of the oil unit
10. Getting out invitations to the program

C. Letter Writing

The children and the teacher wrote and received mail, relative to the oil unit from—

1. Sun Oil Company
2. Standard Oil Company
3. American Petroleum Institute
4. E. I. duPont De Nemours & Company
5. Quaker State Oil Refining Corporation

6. United States Department of the Interior, Geological Survey
7. Ranger, Texas, Chamber of Commerce
8. Oklahoma City, Chamber of Commerce
9. Santa Barbara, California, Chamber of Commerce
10. The Superintendent of Buildings and Grounds for the York City School District

D. Bringing in Samples of Oil

Labeling, discussing, and displaying the samples—One of the first of the children's activities carried out during the work of the oil unit was the securing, bringing to school, labeling, and displaying of the kinds of oil samples that they could get. Each described the use of the kind of oil that he brought. The following samples were brought:

Castor oil	Top oil—for putting in
Cigarette lighter-fluid	gasoline to prevent
Typewriter oil	wear
Shaving lotion	Olive oil mentioned—
Cold cream	none was brought
Hair oil	Asphalt
Turpentine	Perfumes
Insect spray	Compound motor oil
Vaseline	Linseed oil
Linament	Kerosene
Lubricating oil	Motor oil #10
Electric motor oil	Motor oil #20
Camphorated oil	Motor oil #30
	White gasoline

E. Reading About Oil

The kind and amount of the reading done on the questions of oil is indicated by the bibliography which is included in this bulletin.

The children read a great deal about Colonel Drake who started the oil business in Pennsylvania 87 years ago.

A feature article published in the *Philadelphia Inquirer*, "The Multi-Billion-Dollar 'Folly,'" August, 1946, by Nathan G. Goodman, epitomizes the facts that the children learned about Colonel Drake.

F. Making Oil Scrapbooks

Each child made, used, and kept his own personal scrapbook on oil. Each child's scrapbook was different from the scrapbooks of all the others, except that each one included in its content rather comprehensive bulletins on oil put out by some

commercial firms. The class evolved these rules regarding the work of compiling the scrapbooks:

1. Stick to the subject of oil
2. Have just one idea to a page
3. Be neat, neat, neat

Quite by accident, the children learned to make beautiful covers for their oil booklets—suitable ones, too. One child swished a sheet of paper through a pan of water that had oils of various colors floating on its surface. Beautiful! From then on, we took several colors of paint and put drops of them in the dishpan of water. The drops of paint spread on the water and mixed through one another in swirling patterns. When we had a pleasing pattern, we dipped the covers into the pan and transferred to the covers beautiful designs—every one of them different from all the others. One of the supervisors said that she had old books that had inside cover pages similar to the cover pages the children had “invented.”

G. Miscellany

The pupils, teacher, and others, assembled, discussed, and recorded these and other facts about oil:

1. Oil has been called “liquid gold.”
2. Oil can be made from natural gas, oil shales, tar sands, coal. Even vegetables and other plants can be made into oil. They, like coal and petroleum, hold power taken from the sun. Some day, man may harness atomic power for useful work. Or he may find a good way to use sunlight directly as a source of energy. Until that day, he must use the materials in which old sunlight is locked—one of those materials is oil.
3. Oil and Etymology—Oil-producing countries and states—and the derivation of their names *petra* (Greek) and *oleum* (Latin) *Petroleum*.

It fascinated the children to learn that linguists can look at a word and tell what it means by knowing from what the word is derived. Even their own names told a lot—“Guifrida,” “Perez,” “Raffensberger,” “Sweitzer,” and “Bates.”

They noted, too, that the words of one country look different from the words of another country; i.e. the Chinese words look somewhat alike, but the Chinese words look different from the Russian words. And the Russian words different from those of Iran. An interest in etymology was fanned.

They made a chart of some of the words showing oil-producing countries and states, which stimulated the interest in etymology as well as in oil—

Canada	Russia	Utah
United States	Italy	California
Mexico	Egypt	Oklahoma
Trinidad	Iran	Illinois
Venezuela	Persia	Louisiana
Colombia	India	Kansas
Ecuador	Sakhalin (Russia)	New Mexico
Peru	Netherlands Indies	Wyoming
Argentina	Indies	Arkansas
France	Borneo	Pennsylvania
Germany	Sarawak	Michigan
Czechoslovakia	Sumatra	Mississippi
Poland	Taiwan (Formosa)	Montana
Romania	Burma	Indiana
Kentucky	Texas	New York
West Virginia	Ohio	Nebraska
Missouri	Colorado	Tennessee

4. Oil comes from matter of decayed animals and vegetables which have been under pressure for millions of years.
5. Even some of the pipelines for oil, their very names, bear an aura of glamour because of their great human import. Three of these lines are
 - a. *The Big Inch*—crude-oil carrier, 24 inches in diameter, between Longview, Texas, and Phoenixville, Pennsylvania, with 20-inch branches extending to Philadelphia and New York. This pipeline has feeder and distribution lines and storage arrangements.
 - b. *The Little Big Inch*—a carrier for petroleum products. It is 20 inches in diameter. It runs between Beaumont, Texas and New York. It also has feeder and distribution lines and storage facilities.
 - c. *The Iraq Line*, 620 miles in length, built by American engineers, runs over deserts and through or over mountains to the seas.
6. When history dawned in the Near East, people were using oils and tar for many purposes—seepage oils and tar. There was practically no drilling which could be called modern drilling there until the First World War.
7. Americans did not discover oil. The Greeks and the Aztecs, to mention but two, knew about and used oil.
8. The Babylonians used oil—used asphalt for sticking their bricks of clay together.
9. Egyptians used asphalt in making their buildings and used oil for lighting.
10. The Bible refers to a pitch used on the Ark to keep it from leaking.

11. In olden times, men believed oil to be sent by the fire gods—some of them never used it.
12. The use of oil has helped to lighten human toil.
13. People used whale oil for lights before other oils were discovered.
14. A farmer with machinery today produces what 30 farmers produced in 1830 with hand tools.
15. The actual cost of drilling an oil well ranges from about \$25,000 to \$200,000.
16. There is oil in our hair and in our skins.
17. Ducks have oil in their feathers—that is why ducks don't get wet when they swim.
18. Oil products kill malaria-carrying mosquitoes and other insect enemies.
19. Oil sprays kill sand flies and other insects as well as mosquitoes.
20. DDT, a powerful insect poison, is used in an oily spray.
21. Food, medicine, clothing, shelter—all these depend to a great extent upon oil.
22. Linoleum is made with oil.
23. Oil has been stored in the earth for millions of years but its era of effective use is just beginning. Its future is not something to fear but something to plan for.
24. Geologists are highly-trained men who do the first searching before the oil derrick is erected for the purpose of digging an oil well.
25. There are great underground circulation systems for oil transportation. The oil is kept flowing in the underground pipes by the force of pumps.
26. It is expensive for geologists and others to locate oil wells.
27. During the first years of producing oil wells, there was a great waste of gas and oil.
28. What abrasives do to machinery unless the machinery is kept well oiled was studied.
29. Oil will keep metal from rusting.
30. Lubrication prevents moving parts from getting hot and sticking together because of friction.
31. Hundreds of products are made from oil.
32. Synthetic rubber can be made from oil.
33. Phonograph records can be made from oil products.
34. Oil is used in making plastics.
35. A special oil-spread made an artificial fog when troop movements had to be concealed. This fog was made by a generator designed to make fog and lots of it. This fog was used to wrap up a whole town or an Allied camp when enemy flyers were approaching. Our forces used it to hide their movements when they crossed the Rhine. The fog was made of millions of tiny drops, shot into the air under considerable pressure. Instead of vanishing quickly, like steam, it hung in the air for a long time.
36. Sixty per cent of the supplies sent overseas for the fighting men were oil products.
37. Rommel's Nazi army seemed unbeatable until it ran out of gasoline.
38. In World War II, America produced 72 per cent of the world's oil and 85 per cent of the super fuel, 100-plus octane aviation gasoline.
39. If oil and coal were taken from us tomorrow, there would be no commerce, no transportation, no heating fuels, in fact our whole standard of living would be reduced.
40. Many industries have grown out of the oil industry.
41. "The chemical magic of the future will stretch every barrel of oil produced from the earth into ever more varied and useful products. Scientists and engineers will provide ever more efficient fuels and more efficient engines for their use."
42. "A teaspoonful or two of oil would be enough to drive the Queen Mary across the ocean—if burned in an atomic engine."
43. Atomic energy—to produce gasoline? "Officers of the Potomac Hydrocarbon Process Company announced today (August, 1946) their plans to operate a plant at Niles, Ohio, to obtain gasoline from crude oil by use of atomic energy!"—from a local paper.

H. *The Use of Subject Matter*

The children who developed the oil unit had much practice in the use of subject matter. The subject matter was used as the means to an end—the end in this case being the problem of learning about oil. Each "subject" was in focus; i.e. as much of it was used as was needed for the purpose at hand, and no more. Extra drill was provided at particular periods for subject matter skills.

1. Physical Education—In play periods, after the children had made considerable progress in

the oil unit, they evolved mimes—and did some uproariously funny acting in them:

Servicing a car in a garage (filling station operators should have seen this)

Putting fuel oil in a home basement

Action of a group of men who have just struck oil

Launching a ship—with the skids greased

Carrying a pipe for an oil line

Digging the Big and the Little Big Inch

Laying bricks as the Babylonians did in the olden days

Turning the valves on an oil-well "Christmas tree"

2. Number Concepts—Arithmetic—Measurements for construction; study of tables, percentages, comparisons, etc.

3. Reading—A Thrilling Reading Lesson—A great deal of reading went on in this oil unit. The children read materials written by others and wrote some of their own individual booklets. The children enjoyed the lesson about *The Tremendous Trifle, the Story of a Mighty Industry, Oil, and The Story of a Man Who Never Gave Up, Edwin L. Drake*. This was a script put out by the E. I. duPont De Nemours & Company. The content was thrilling, and the vocabulary easy enough for intermediate children.

The children had much sympathy for "Cun-
nel" Edwin L. Drake and the oil industry which he began in Titusville. They were sorry, too, because it seemed that everyone profited from his vision, his toil, and his tenacity except himself.

They enjoyed the colloquial language of the script. They understood not only the words but also the spirit of what they read. They read with the spirit of the story—sometimes with humor; again with pathos. They won't forget the story of Drake and Titusville.

4. Geography

- a. In geography, the children and their teacher, and the Marauder literally covered the world. The countries, the oil, the ways of living of the people—what a human drama unrolled here! And all the time in Pvt. Doll's teaching and in the spirit of the group, there was the human obbligo: "We hold these truths to be self-evident; That all men are created equal; that they are endowed by their Creator with certain unalienable rights;

that among these are life, liberty, and the pursuit of happiness."

- b. Many maps of all kinds and the globe were constantly in use.

5. Fine Arts—These are the subjects of murals and easel pictures, related to the oil unit, that were made, framed, and hung in the classroom:

a. An Oil Tank Car

b. Natural Rock Faults of Slips Trap Oil Below Surface

c. Oil Field and Gusher

d. An Oil Trap

e. Drake's Oil Well

f. Early Transportation of Oil

g. "Fill'er Up,"—An Oil Service Station

6. Spelling and Handwriting—Much spelling and writing functioned as an integral part of the unit work.

7. Dictionary and Reference Work—Much dictionary and reference work functioned as an integral part of the unit.

8. History—A great deal of present and past history was experienced in the unit.

9. Science—Respect for Scientific Procedures—The children were awed by the achievements and the progress of science. Some of the experiments of the unit are:

a. Oil Floats on Water—A backlog of insight into the matter of specific gravity was built up in the children's minds as they found by actual experiment that oil comes to the top—cold cream, motor oil, butter, linseed, hair oil, etc. Mix it with water and it floats.

b. Cleaning Fluid Removes Spots—As this experiment was carried out, the keynote was safety. As the spot-removing went on, examples were cited of the ills that have befallen careless users of cleaning fluids. The children related some examples of which they had first-hand knowledge.

c. Oil in Paint Protects Wood—Two like pieces of wood were procured. Water was poured on one piece; the amount of water that clung to the wood and the amount that drained off was noted. The second piece of wood was well-oiled and greased. Water was then poured on it—less water stayed on the wood. The children saw how oil in paint helps paints to protect wood from decay from water.

d. Oil and Mosquitoes—The matter of making use of the knowledge that oil floats on water and that mosquitoes don't like to drink oil was discussed in the lesson on controlling mosquito pests by the use of oil. Put oil on the water in pond, swamp, or pool. The oil will float. The mosquito larvae have to come to the surface to breathe. They come to the surface. They strike the oil. They suck it in. They clog their breathing apparatus. They cannot breathe. They die. Oil helps control insect pests.

e. Oil Burns Readily—With every precaution for safety, the teacher and children set fire to various small quantities of various kinds of oil. It was observed how readily oil burns—and how some oils burn faster and hotter than others. The serious matter of explosions and other disasters caused by burning oil were discussed.

f. Oil Is a Lubricant—The children had a miniature, workable, metal model of an oil derrick. Plugged into the electric socket, it worked. It was rusty and old and it squeaked in every joint. They gave the derrick a thorough oiling and greasing and it worked much more smoothly and with less racket. Each child then mentioned other machinery around his home or neighborhood that had to be oiled—the sewing machine, the electric fan, roller skates, snap-latch on the refrigerator door, carpet sweeper, automobile.

10. Charts—These are the subjects of some of the 21 charts that the pupils and their teacher made and used as a part of the work of the oil unit:

Map showing oil-producing states
Map made in cooperation with the Marauder
Charts on Iran
Facts on oil
Oil Story of Pennsylvania
Ranger, Texas
Commando Kelly in the oil business
Oil in transportation, storage, marketing
Drilling for oil
Flow of petroleum
Record charts—keeping the unit systematized
Bibliography charts
Vocabulary charts
Charts of oil stations in York
Picture charts

11. Social Learning

a. Receiving Visitors—Many visitors observed the work of the oil unit. The children had much practice in the whole matter of the guests in such items as: polite ways of receiving company, giving explanation of unit activities, and giving and getting information.

b. Public Appearance—After the class had talked about oil, procured, prepared, labeled and discussed samples of oils and oil products, read books and pamphlets on oil, painted murals and easel pictures illustrating oil topics, constructed miniatures of oil tools and machinery, made science experiments with and about oil, visited oil and gas stations, studied the history of the finding of oil in Pennsylvania, and discussed the great part that oil has played and will play in the lives of people, they decided to give an assembly play about oil so that all the other children of their school could share in their knowledge of oil.

For the assembly program, each child chose his own topic. Each prepared his own speech. The talks were not memorized—except as a particular child might want to memorize his own—or practically did memorize it through practice. Each child was free either to get up and say what he wanted to say, without notes, or to prepare and use such notes or reminders as he himself thought necessary for him. Topics chosen and discussed and kinds of notes or reminders used:

- (1) *How oil is found*—Surface puddles; Indians skimmed oil from water; Drake drilled for oil; geologists find it by examining rocks; some people tried to discover oil by use of the "doodle bug"
- (2) *How an oil well is dug*—Use wall chart secured from oil company; describe tool method; rotary method—boring in ground; use of electricity
- (3) *How oil is produced*—Natural pressure of gas; capture of gas and pumping; flooding; the "key" well
- (4) *Where does oil go when it is taken from the old well?*—Into cold storage; into pipe lines; into tankfarms; into ships; into tank cars; to modern service stations; into tank ships. Here safety rules that ought to be used by all persons in and around gas stations were explained.

- (5) *"Christmas tree" in oil*—Capping an oil well; gusher; pressure gauge; rate of flow; danger of fire; safety all the time; "Christmas tree" is the name given to collection of valves controlling a high pressure well, because it looks like a Christmas tree
- (6) *How large an area is served by oil*—Factories, saw mills, mines, farms, homes.
- (7) *Is an oil fire hard to put out?*—An oil fire is hard to put out; water does little good; steam should be used; danger of throwing burning cigarettes around oily places; use of asbestos suits for fire fighters. Safety was stressed in this talk
- (8) *Four great oil regions of the world*—Use oil map.
Mediterranean: Romania, Russia, Iran, Iraq, Egypt
Caribbean: Argentina, Peru, Venezuela, Colombia
Far East: Burma, India, Sumatra, Taiwan
North Polar: Geologists are making equipment to get polar oil
- (9) *What can we get out of 100 gallons of crude oil*—Use the chart that shows 97 per cent of each gallon of crude oil is used—just 3 per cent waste
- (10) *Pipelines here and there*—
Across Arabian Desert
Big Inch, from Longview, Texas, to Phoenixville, Pennsylvania
Little Big Inch, from Beaumont, Texas, to New York area
Line along the Ledo Road
Line across English Channel
- (11) *Oil for tomorrow* — Transportation, furniture, plastics, chemicals, medicine for tomorrow
- (12) *Oil traps*—Underground pools of gas, oil, water
- (13) *The job of the geologist*
- (14) *Oil storage tanks* — Explain the wall charts
- (15) *Titusville*
- (16) *Making oil go further*—Remember how we all had to get in the fats? If we hadn't wasted we would not have had to work so hard in the end

(17) *Burning rivers*—Long before the Drake well, a lot of oil seeped out and ran onto the river, floating on top, caught fire, and burned

(18) *Showing everyone's oil scrapbooks*—Each child rose, one after another, and exhibited and explained some particular item from his own scrapbook. Each child explained the scrapbook item that was of particular interest to him

III. EVALUATION OF WORK OF OIL UNIT

A. Critical Observation and Thinking of the Persons Taking Part in the Unit

The quality of the mental-hygiene procedures, and of the processes of democratic interaction were continuously considered. It was noted whether each child was a needed, successful participant in the group enterprise.

B. Informal Tests of Many Kinds

Performance tests; pencil-and-paper tests

C. Standardized Tests

No standardized school achievement tests were used because such tests could not measure the kind of work aimed at and secured in the oil unit. The children saw, though, time after time during the progress of the unit, that there is necessity for standardizing tests: a gallon measure must be standardized—must mean the same thing everywhere, so must a mile, or a quart, or 500 objects.

D. Talking Things Over

At the close of the unit, Pvt. Doll and the elementary director talked things over. Some of the items that they particularly liked about the oil unit study were—

1. It was a unit problem; the children knew what they were working for or trying to do—and why. They could get a view of the whole.
2. Every child could participate successfully in some work of the unit—no child had to fail. The unit lent itself well to differentiation of instruction according to the needs of the individuals being instructed.
3. The unit was centered on a present problem that affected everyone participating in it. Even though the study of oil was centered in the present, yet the past was scanned, and the future predicted. All this "made sense."
4. Its work had aroused interests and appreciations in the minds and hearts of the children.

They wanted to study more about a great number of interests that had been aroused by the unit of work. They developed creative insight into the potential magic of oil—and the great good or ill that its use can bring to mankind. In their imaginations, they flew in planes fueled with oil to all the far places of which they had studied. They had a great desire to know more of those countries and the people in them. They were eager, potential visitors to those countries—visitors of good will.

5. They lived a good quality of human brotherhood as they pursued the studies of the classroom.
6. Its work caused the children to realize the value of study and education. For example, it was a great deal better to depend upon geologists for the location of buried oil than upon "doodle buggers," but it took a lot of education to be a geologist.
7. Private Doll said that he wouldn't consider the work of the oil unit of much value if such work taught only the facts about oil and omitted the development of ideas as to how oil should be used for human benefit.
8. Both Private Doll and the elementary director thought that having the much-traveled war correspondent Merrill Marauder come to the school and take a hand in the curriculum lent a lot of zest to the whole enterprise.

ILLUSTRATIVE UNIT—GRADE VI

A STUDY OF PENNSYLVANIA¹

Note: The general areas suggested in the Sixth Grade Unit on "Growth of Democratic Institutions," have been worked out here in other relationships. This is an excellent point of view from which to look at these data. Each teacher should work out for herself with her own class the type of organization which will accomplish most for them. This school is near Philadelphia and many school journeys were made to interesting and historic places in the vicinity.

I. HOW STUDY OF PENNSYLVANIA CAN BE APPROACHED

A good way to start is with the vacation trips of the children. Maps can be brought in, showing the roads, towns, etc. Teachers who have traveled in Pennsylvania may have folders, pictures, etc. to

show as an appreciation of the beauty of the State. From this start, perhaps the suggestion may be brought out that different sections have different manufacturing or other job-filling activities. Have the class decide which trip sounded the most interesting. Stimulate further interest in this trip by asking:

How do most of the people in the town you visited earn their living?

Was their home life like yours? What differences? Do you know why?

Were the people proud of their town? Tell what you saw or heard about this. Did they have police? What were the food stores like?

How was the mail delivered? Where did the children play in the summer? What did children your age do after school hours? Did they dress like you? Did the church you attended have services like yours at home? What types of churches were in your visited community? What were children your age doing in school that were different from the things you do in school? etc.

II. TEACHER-PUPIL PLANNING

1. Have children ask any questions they want about topic. Write questions on the board.
2. Have children evaluate the ones they think are most important for answering.
3. Form group workers—allowing each child to select the group he desires.
4. Group responsibility must be discussed, criteria established, leadership and organization planned.
5. They, as groups, do research, study, collect, make projects, etc. They must compile work, and present the list of references used.
6. Group presentation to class—whole room evaluates whether they have reliably answered the questions they chose.

III. SEVEN AREAS OF LIVING ACTIVITIES

A. *Making a Living*

QUESTIONS TO STUDY

1. What kind of workers do we need in our State to produce goods and services?
2. Why do people work? Why do they choose different jobs?
3. Does your father do the same type of work as the pioneer father? Explain.

¹From a Unit submitted from Radnor Township Public Schools.

4. What kinds of work do we perform today to provide food, clothing, shelter, communication, and transportation needs? List them.
5. How did the pioneer and the Indian earn their food, clothing, shelter, communication, and transportation needs? Why do they differ from present-day needs?

SUGGESTED DEVELOPMENT (INFORMATION AND EXPERIENCES)

1. Show slides on pioneer life, Indian life, workers in our modern society. (Let children decide which to study.)
2. Develop lives of Indians and Germans through study of pottery, reading, and seeing examples.
3. Study and mark routes on maps, pioneer roads vs. modern.
4. Play recordings of early Pennsylvania music.
5. Read stories of famous Pennsylvania people—Report on one each month.
6. Give a brief talk on Pennsylvania as a producer of lumber.
7. Using the map, make a list of State and national parks and forests.
8. Make a booklet entitled: "Industries in Pennsylvania."
9. Make a list of the various nationalities and races that first came to Pennsylvania.
10. Make a class visit to the log cabin of John Morton.
11. Visit Commercial Museum for commercial exhibits, and Franklin Museum to see Franklin exhibits, and the history of transportation.
12. Dramatize a treaty meeting between William Penn and the Indians.
13. Make a clay ship in miniature, like the one in which William Penn arrived.
14. Discuss William Penn's attitude toward quarrels and war.
15. Compare a list of ten modern jobs with the pioneer's work.
16. Write to firms for information and materials.
17. Invite Mr. Wade, and a parent from Baldwin Locomotive Works, to discuss their work (trains).
18. Dramatize an original play on frontier life with a Quaker family.
19. Visit southwest airport to see plane and passenger air service.
20. Draw an outline map of Pennsylvania and shade the areas of forests and agriculture.
21. Write a letter to an Indian boy using the picture language of the Iroquois tribe.
22. Tell the story of "Black Diamonds."
23. Assume a newspaper existed during the pioneer and Indian days. Using modern front page technique, write one article about your life and problems as a pioneer or an Indian.
24. Make a puppet boy pioneer and a puppet boy modern.
25. Dramatize a short pantomime with children representing the two types of living. Use puppets for narrators.
26. Write a short statement on "What I Owe the Pioneer for His Fight for Religious Freedom."
27. Make a bibliography of all the books and materials used in the study of "Making a Living." Post the list. (Individual groups will cooperate in this list.)
28. Make a poster listing natural resources of Pennsylvania that we should conserve.
29. Using cartoon technique, make a poster showing what will happen to our schools if all our lumber is wasted.
30. Organize a class newspaper to be published monthly. Class to evaluate articles printed.
31. Visit Atwater Kent Museum to see the original pioneer and early Philadelphia exhibits.
32. Make a list of all the workers who contributed something today to the pleasure of your living.
33. Make a list and discuss with group the many contributions made by pioneers who have made your living better today. (Franklin, etc.)

B. *Contributing to Home Living*

QUESTIONS TO STUDY

1. What are some of the conveniences and comforts that we have in our homes that the pioneer lacked?
2. What are the differences in responsibilities between the two groups?
3. Did the pioneer or Indian have the same variety of food, similar clothing, and same kinds of tools and machines as we do?
4. Are we self-sufficient like the pioneer, or do we depend on others for our food, clothing, shelter, and communication?
5. Can you describe the different kinds of homes

people in our State have lived in since the early pioneer days? What words best describe the changes that have occurred?

SUGGESTED DEVELOPMENT (INFORMATION AND EXPERIENCES)

1. Collect pictures of pioneer life and name conveniences in your home that they lacked.
2. Visit the home of Betsy Ross in Philadelphia.
3. From slides, study Franklin's and Westinghouse's contributions to better living in our homes.
4. Read stories by Elsie Singmaster on Daniel Boone.
5. Dramatize candlemaking in pioneer days.
6. Give an oral talk on how you would get food, shelter, clothing, if you were lost in "Penn's Woods."
7. Have leaders from the Brownie and Cub groups of the Scouts give talks on camp lore.
8. Have demonstration of a spinning wheel by mother of child who owns one.
9. Visit Atwater Kent Museum to see "Old Philadelphia."
10. Visit Elfreth's Alley, to see dozens of old homes that were built before Franklin's time. He lived there.
11. Visit the Academy of Fine Arts to see complete historical homes, authentic costumes, and famous artists of Pennsylvania.
12. Make a set of clay dishes for a family of four pioneer Quakers, a set of dishes for four Indians, and a set for four of your classmates.
13. Collect walnut hulls, hickory hulls, blackberries, madder, boil each group with plain muslin to dye materials as the pioneers did.
14. Make a corn husk doll.
15. Collect sassafras roots and make "tea."
16. Have an outdoor meal, making the fire according to scout regulations, baking potatoes and corn with the husks, broiled meat (smoked ham).
17. Read Daniel Beard's book on Camp Lore and Woodcraft to find out how the pioneer packed his horse for a trip. Report to the class.
18. With a hand loom, weave a rug for the puppet stage. Use Iroquois design.
19. Make a Quaker mother puppet, and an Indian mother puppet.

20. Make a list of all the people who helped make the clothing you wear; make a list for an Indian or a pioneer. Compare.
21. Show slides on the frontier woman, pottery, history of light, history of houses.
22. Write a poem of eight lines telling why you are thankful you live in a modern home instead of a log cabin, or bark-covered hut.
23. Make a poster showing the exterior of homes in Penn's day and on the opposite side today's fine homes.
24. Using cartoon technique, make a poster showing a night PTA meeting in a log cabin and what might have happened in those days.
25. Make a bibliography of all the books and materials used in the study of "Living in the Home." Post the list. Individual groups will cooperate in making this list.
26. Visit History of Lighting Display at Franklin Institute showing home interiors.
27. Bring old-fashioned samplers from homes which have them. Study them and make one of your own design.

C. *Participating in Organized Group Living in a Democratic Society*

QUESTIONS TO STUDY

1. Can we learn anything from Penn's attitude toward the Indians and those pioneers who attended a different church than he did?
2. What do you consider the best way to handle a child who makes fun of your religion?
3. Why was the town meeting so important to the pioneers?
4. Do we have more respect for the rights and property of others in our town than the pioneer did in his?
5. Is a majority vote of the class a fair way to decide issues?
6. Do you feel more fortunate than the pioneer boy in having parks, libraries, police, paved streets and lights, phones, playgrounds, lakes, schools, clean water and milk supplies, pure food laws?
7. As nearly as possible, list all you eat and make a list of the places the things came from originally (this includes salt, pepper, sugar, etc.). Keep a record for one day. Why do we need to be proud of our State?

SUGGESTED DEVELOPMENT (INFORMATION
AND EXPERIENCES)

1. Read and report on the contributions of the following men: Stephen Decatur, James Buchanan, Conrad Weiser, Bald Eagle, Daniel Boone, Benjamin Franklin, and John Morton.
2. Have a local man in the room to show glass blowing. Show slides on Stiegel glass.
3. Visit Independence Hall and Carpenters' Hall in Philadelphia. See the old Liberty Bell.
4. What is meant by saying Pennsylvania has one people from many countries? Make a list of the nationalities represented in our room.
5. Show slides on Life of Washington, Life of Lincoln, city government, a book in its making, Washington at Valley Forge, Lincoln at Gettysburg, the American Flag, Nations as Neighbors, and We and the World.
6. Write a letter to the borough council and ask for information about its duties and responsibilities.
7. Write to Springfield Water Co. and ask how it furnishes water to our homes and what measures are taken for sanitation.
8. Have a "town meeting" to discuss the best way to handle fights on the playground.
9. Organize a "citizens" group that will function daily in all school affairs.
10. Have discussion of the religious differences found in the class. Have children volunteer to describe their church and church activities.
11. Have a demonstration of proper bicycle traffic regulations with the help of the police department. Have an auto company give movies and demonstration on faulty auto brakes.
12. Earn money to buy a State flag.
13. Make a Quaker father puppet and an Indian chief puppet.
14. After reading about William Penn, write an article for our newspaper telling how the nations of today can live together in peace.
15. Learn the song, "My Pennsylvania."
16. Dramatize the story of the naming of Pennsylvania.
17. Visit the Letitia House in Philadelphia where Penn lived on his first visit to Philadelphia.
18. Make up a code of behavior for a school child.
19. Make a list of at least ten reasons why you want to have your share in any class voting.
20. Look up the meanings of government, responsibilities, and cooperation. Dramatize them in pantomime.
21. Originate a puppet play using all the puppets made so far. Have the play bring out tolerance as taught by Penn.
22. Write a poem about pride in our State.
23. Divide the class in half—one half prepares all the arguments it can find for (1) living in William Penn's day was better, and the other half for (2) living in our day is better.
24. Write a short paper on what you enjoyed most in this study.
25. Using cartoon technique, make a poster showing what William Penn would do if he caught someone cheating the Indians.
26. Make a list of things we can do as good citizens to improve our school.
27. With toy telephones, demonstrate proper courtesies.
28. Write letter to school board asking that a small sink with running water be installed in our cloakroom. Stress group action and get support of the parents.
29. Make a bibliography of all the books and materials used in the study of "Participating in Organized Group Living in a Democratic Society." Post the list. Individual groups will cooperate in this list.
30. Make a list of the activities your church, scouts, or other groups are doing to help some other state or country.

D. *Conserving Life and Health*

QUESTIONS TO STUDY

1. What national and state organizations help all peoples in time of trouble? Explain their work and manner of getting funds.
2. What are the duties of the health officer, school nurse, and Bryn Mawr hospital in our borough?
3. Is it important for the people of Philadelphia to be interested in the kind of water they drink?
4. How is your garbage collected and disposed of?
5. Explain what health services pioneers and Indians had and how they took care of the sick.
6. Should we appreciate pure food laws and government regulations that force the storekeeper to follow certain health laws? Explain some.

7. Explain why we should take care of our clothing and why we bother to wear different kinds of clothing according to the seasons.
8. Do you think our safety problems today are the same as those the pioneer and Indian faced?

SUGGESTED DEVELOPMENT (INFORMATION AND EXPERIENCES)

1. Show slides on home safety, street safety, summer safety, safe housekeeping practices, interdependence of living things, how disease is spread, children's accidents in the home, policing the mouth, the tale of soap and water.
2. Have the National Dairy Council group give a puppet show on health.
3. Have dental hygienist give talks on care of teeth.
4. Visit the Bryn Mawr Hospital on a conducted tour to observe care in cleanliness.
5. Read history on Benjamin Rush and give an oral report on his life.
6. Write to the Metropolitan Life Insurance Company for the series of booklets on health heroes. Report on one of the men each week.
7. Give original play with puppets showing the difference in health and safety precautions of the pioneer compared to precautions in modern days.
8. Under the direction of the local fire department, learn how to turn in a fire alarm, how to use exits, how to report accidents, what to put in a first aid kit and how to use it.
9. Have a representative of the Red Cross give a talk on its national and world help showing pictures of the wide range of help.
10. Visit Abbott's Dairy to inspect the methods of sanitation.
11. Find out and make a list of the health hazards in Radnor Township. (Stress danger of lake where second grade boy was drowned this summer.)
12. Write to the State Department of Health at Harrisburg for a bulletin listing and describing control of communicable diseases. Report to the class for which of these we quarantine. (Look up "quarantine" in the dictionary.)
13. Tell what you would do if your pet died; if your garbage was neglected.
14. Collect newspaper items about health. Report on them.
15. Ask high school science department to give a microscope demonstration on bacteria.
16. Using clay, make miniatures of all the sanitation things in our homes made of clay.
17. Visit nearby swampland to see homes on stilts in the midst of mosquito breeding. Discuss control of mosquito-DDT.
18. Report to class what was grown in your victory garden this summer.
19. Visit Campbells Soup Company in Camden.
20. From clay, make large copies of a well-balanced meal. Color accurately.
21. Teach folk dances and games.
22. Organize a recess group for each month which will be responsible for teaching games and conduct to the lower grades.
23. Visit a Philadelphia department store to see the kind of materials and the variety of materials that we use in our lives.
24. Read stories to find out the many different people who supply clothing.
25. Make a chart showing the kinds of clothing materials. Attach samples above the names with statements as to their uses.
26. Read how the Indians dyed their materials. Write report.
27. Make clay buttons for a Quaker pioneer, modern girl, modern boy.
28. Learn song about safety.
29. Write original poems on health and safety.
30. Make a toothbrush puppet, and using your modern boy puppet, write and produce a health play.
31. Have a panel discussion on "Why I Am Glad I Live in Pennsylvania." (From point of view of conserving life and health.)
32. Make a poster listing all the health services in our community.
33. Using cartoon technique, make a poster showing the dreams of a boy who forgot to wash and brush his teeth before bedtime.
34. Have citizens' group make a cleanliness code for our room.
35. Make a bibliography of all the books and materials used in the study of "Conserving Life and Health." Post list. Individual groups will cooperate in this list.

36. Read the story of George Westinghouse and his contributions to safety.
37. Visit frozen food plant and lockers at Media.
38. Stress good eating habits during lunch time. Discuss likes and dislikes.
39. Read to group stories on health and conservation.

E. Expressing and Satisfying Aesthetic and Spiritual Impulses

QUESTIONS TO STUDY

1. In what ways have we beautified our borough, Philadelphia, and our State that were not possible in the days of William Penn?
2. What has our State to offer tourists in scenic beauty, resorts, roads?
3. What advantages can we find in Philadelphia and suburban areas for pleasures in books, art, sciences, concerts, theatres, museums, and lectures?
4. What after-school activities do you have? Are dancing, piano, dramatics, scouts, Sunday School, library, school camp, important in your town? Tell what you consider most important and why.
5. What activities do the churches offer to the young people in winter? in summer?
6. What clubs or study groups do your parents belong to? What do they like most in these activities?
7. What did the pioneer community provide for people in the way of churches, clubs, theatres, art, movies, museums, lectures?

SUGGESTED DEVELOPMENT (INFORMATION AND EXPERIENCES)

1. Study the life of Stephen Collins Foster and play recordings of his songs.
2. Learn Foster songs.
3. Tell story of "One Red Rose" (payment for church each year) at Manheim.
4. Visit the Benjamin West house on Swarthmore College campus and tour the grounds.
5. Write an article on what can be done to improve our borough.
6. Show slides and discuss Stephen Foster; the Militant Muhlenbergs.
7. Read and study and discuss Revolutionary heroes. Visit Christ Church. See graves of Franklin, Dr. Benjamin Rush, Robert Morris,

and the signers of the Declaration of Independence.

8. Visit Gloria Dei, Old Swedes Church, built in 1700 (after class study).
9. Visit Penn Treaty Park at Columbia and Delaware River.
10. Visit Academy of Fine Arts at Broad and Cherry to see collection of early American art.
11. Visit Swedish-American Historical Museum (19th and Patterson).
12. Visit Botanical Gardens, Horticultural Hall and Morris Arboretum.
13. Show slides on clay, glass, paper, Pennsylvania German art, and native wild flowers, trees, and birds.
14. Visit Edgar Allan Poe House at 530 S. 7th Street.
15. Visit Fort Mifflin and Bartram's Gardens.
16. Read up on and discuss church windows. Visit D'Ascenzo Studio and Glass Works.
17. Write an interesting letter describing what you do with your leisure time.
18. Make historical maps of the State, one showing early churches; one authors, etc. (dated).
19. Make copies of vases and pitchers with Swedish decorations. Read about Swedish decorations and discuss.
20. Make bowls and dishes of red clays, using affectionate words and ornate decoration of the Pennsylvania Dutch (Pennsylvania German). Discuss the meanings of designs.
21. Read and discuss the folklore of the Pennsylvania German. Discuss hex signs, etc.
22. Make a booklet of the best German designs. Transfer to muslin and finish for class curtains, book covers, table covers.
23. Dramatize, costume, and light a play showing the leisure-time activities of the pioneers, and the Indians, and contrast with our leisure time.
24. Make complete bibliography for this work to be used by entire class.
25. Make historical poster showing the points of interest in Delaware County.
26. Make a list of goods, foods, and services that we get from other states and countries of which the pioneer never heard.
27. Using cartoon method, depict the leisure-time activities of Radnor children.

28. Read story about Baron Von Steigel in Singmaster's Book 2.
29. Tell the stories of the "Franklin Tree," "Benny and the Cat's Tail," and the "Tioga Waltz" (Singmaster).
30. Find out what is meant by the story of "Acres of Diamonds," as described by Russell Conwell.
31. Learn some early folk dances.

F. *Engaging in Recreational Activities*

QUESTIONS TO STUDY

1. Why is it important to have recreation?
2. What kinds of recreation can children have?
3. What are the parks nearest you, who supports them, and how must you travel to reach them?
4. What groups in our borough sponsor recreational programs, clubs, camps, etc.?
5. What places can we visit that will be interesting yet inexpensive for the family to share?
6. What kinds of recreation did the pioneers have? The Indians?

SUGGESTED DEVELOPMENT (INFORMATION AND EXPERIENCES)

1. Visit the following places: U. S. Mint in Philadelphia, Franklin Institute, Academy of Natural Sciences, Fels Planetarium, Philadelphia *Inquirer*, Curtis Publishing Company, Philadelphia Navy Yard, The Zoo, The Aquarium.
2. Attend music concerts at Robin Hood Dell and children's concerts at Academy of Music in Philadelphia.
3. Attend dramatic productions for children given by the Claire Tree Major group in Philadelphia and the Junior Club at Swarthmore.
4. Invite the Scouts to give demonstrations in crafts.
5. Make a list of the things that happen to people who never have any recreation.
6. Show slides of Pennsylvania game and fur bearing animals, wild animals around home, parks, and recreation areas in our State.
7. Collect newspaper, magazine, and travel pictures of Pennsylvania and have an exhibit of recreational activities.
8. Have the director of the Chester YMCA give talk on summer camp activities and show films.
9. Have panel discussion on "Why we should join the Brownies and Cubs."

10. Write to travel bureaus, bus companies, and train travel bureaus for Pennsylvania points of interest.
11. Does our community in any way support Philadelphia? Why do we have the right to go to Philadelphia to visit? Give oral talk on these questions.
12. Make a miniature scene entirely in clay showing recreation in a mountain area. (Colors and sizes must be correct and in proper proportion.)
13. Visit Longwood Gardens.
14. Make a list of all the local recreation pleasures that do not cost anything. Make duplicate copies for each class member by using hand duplicator in the classroom.
15. Exchange recreation programs with the seventh grade. They can put on a foreign land program and we can put on a Pennsylvania program.
16. Make an outline map of the fishing places in Pennsylvania. Put on it the fees charged, kinds of fish found, and general laws and dates.
17. Make a hunting map of the State. Picture kinds of animals, dates for hunting them, licenses, and laws.
18. Send for winter sports programs in the Pocono Mountains. Get pictures.
19. Find out what Governor Pinchot did for recreation in our State.
20. Make a movie, joining art pictures together to depict the recreational activities of the pioneer and Indian. Have child who made picture describe the details.
21. Have parents from the borough and high school pupils report on and demonstrate their hobbies.
22. Make arrangement to visit Lennox pottery plant in New Jersey or Franklin Tile in Philadelphia (all day trip).
23. Encourage swimming lessons for those in the class who do not swim.
24. Make cartoon picture of a boy fishing with his dad who is very good at fishing.
25. Have art teacher show us various methods of ink sketching, tie-dyeing, woodworking, finger painting, pastel coloring, poster paint technique on blackboards and windows, cut paper technique, how to make decorations for different holidays, including table set for a party, how to make paper flowers, paper costumes, salt beads, miniature gardens in good proportion, winter bouquets.

26. Learn folk dances to present to PTA groups.
27. Learn five new group games and teach them to the class at recess.
28. Learn the rules of baseball, hopscotch, handball, and volleyball.
29. Discuss "being a good sport." Is it important?
30. Dramatize a play showing good sportsmanship.
31. Write poems on recreation.
32. Make a bibliography of all books and materials used in engaging in recreational activities. Post list. Individual groups will contribute to this work.
33. Have a demonstration by a cartoonist to illustrate his profession.
8. Tell the story of the "Little Red Schoolhouse."
9. Gather interesting stories from your grandparents on how they got their education.
10. Read the history of Christopher Dock's first schoolhouse and find if Tinicum has preserved any of it for our examination.
11. Find out and discuss who pays for our schools, equipment, and supplies.
12. Visit a school for the blind, the crippled, and an orphanage.
13. What does the School Board do for us? Do they take money out of their pockets for the school? How did they get their positions? Are they paid for their work? Find answers and report to class.

G. Engaging in Educational Activities

QUESTIONS TO STUDY

1. Who pays for the schools, their equipment, and supplies?
2. What kind of schools do we have in Pennsylvania that give special instruction?
3. What organizations help our school?
4. What services do the school libraries and town libraries offer?
5. In what way have both school building and school work changed since your grandfather went to school? since pioneer days?

SUGGESTED DEVELOPMENT (INFORMATION AND EXPERIENCES)

1. Read stories and report on Benjamin Franklin, Stephen Girard, Robert Fulton, Thaddeus Stevens, Christopher Dock, Enoch Flour, and explain in what way they helped education in Pennsylvania.
2. Show slides of history of schools, The Ancient School, Slate and Blackboard.
3. Write to the County Historical Society and get information as to the development of schools in the county.
4. Trace history of education in Radnor Township. In clay make a miniature classroom like the first one in the borough.
5. Invite local educators in to talk on the customs of the first schools in our borough.
6. Read "Wonders of Progress through the Ages" and report on it to the class.
7. Defend in debate, "Why we are fortunate to be going to modern schools."
14. Does the government take an interest in our educational background? Do you get better positions later in life if you have a good education? Are all children in the United States as fortunate in the schooling they get as you have been? Have citizens' meeting and discuss.
15. Write to the State Department of Public Instruction at Harrisburg for information on attendance laws of Pennsylvania.
16. Write an article for our newspaper telling why it is important to be on time for school.
17. Write a poem comparing the Little Red Schoolhouse with your school.
18. Get an elderly retired teacher to tell of life in the one-room school.
19. What have we found in regard to the opinions of authors of books written on the same subjects? Discuss.
20. Using cartoon technique, show how the early settlers would regard our comic books since they learned to read from the Bible.
21. Make a list of things in our school that are ordered from other states and countries, showing our dependence on others.
22. Make a bibliography of all the books and materials used in the study, "Engaging in Educational Activities." Post list. Individual groups will cooperate in this list.
23. Invite elderly people of the town to contribute to an authentic display of local historical articles. Have displays in store windows to interest the community in its own history as discovered by the schools.

IV. CULMINATING ACTIVITY

Parents are invited to an exhibit in our room and children organize and run an entire program showing what they have learned in an integrated program studying the units under the seven areas of living. The rooms can be divided into seven parts each having its exhibit on that unit. There will be maps, booklets, newspapers, ceramic miniatures, slides, pictures, collections, recordings, written work, letters written to and answers from firms, posters, cartoons, bibliographies, poems, handcrafts, reports on each visit we made, reports on each resource visitor, reports on activities of all local groups (government, social, and educational), all on display under the heading under which it was studied.

SUGGESTIONS FOR A PROGRAM (TO BE CHOSEN BY CHILDREN AFTER DISCUSSION)

1. Songs by children selected from Foster and Cadman.
2. Explanations of completed work as divided in groups.
3. Dramatization showing differences between pioneer life and ours.
4. Stories told of pioneers and biographies of famous Pennsylvanians.
5. Slides on some point of interest in their studies.
6. A puppet show using puppets they made.
7. A pantomime, shadow play, or choral speaking on a unit.
8. A forum on some controversial subject in William Penn's day.
9. A citizens' group discussion on what can be done to improve relations between school and home.
10. Recitation of poems.
1. Oral talks on visits.
2. Oral talks on resource visitors.
3. A folk dance.

14. A demonstration of clay pottery as done by Pennsylvania Germans.
15. Children act as guides for parents to visit the exhibit explaining details.

V. SOURCES OF FREE AND INEXPENSIVE MATERIALS

Pamphlets and Booklets

- American Medical Association, 535 N. Dearborn Avenue, Chicago, Illinois. List of Publications on *Health* with prices.
- American Red Cross, Washington, D. C.
- Australian News and Information Bureau, 610 Fifth Avenue, New York, N. Y.
- Industrial Arts Cooperative Service, 519 W. 121st Street, New York, N. Y.
- Minnesota Agriculture Extension Division, University of Minnesota, Minneapolis, Minn.
- National Resources Planning Board, Washington, D. C.
- National Safety Council, 20 N. Wacker Drive, Chicago, Ill.
- Office of Education, Federal Security Agency, Washington, D. C. *List of education bulletins.*
- Pennsylvania Aeronautics Commission, Department of Commerce, Harrisburg, Pa.
- Pennsylvania Extension Division, The Pennsylvania State College, State College, Pa.
- Pennsylvania State Planning Board, Department of Commerce, Harrisburg, Pa.
- Service Bureau for Intercultural Education, 221 West 57th Street, New York, N. Y.
- Union of American Republics, Washington, D. C.
- United States Department of Agriculture, Washington, D. C.
- United States Department of Commerce, Washington, D. C.
- United States Office of Education, Superintendent of Documents, Washington, D. C. Pamphlets Nos. 12, 6, 10, 16
- United States Forest Service, Department of Agriculture, Washington, D. C.
- United States Department of Interior, Washington, D. C.

Maps

- Director of U. S. Geological Survey, Washington, D. C. .10 for each contour map of sections of state.
- Division of Documents, Department of Property and Supplies, 10th and Market Streets, Harrisburg, Pa. Streams map of Pennsylvania, .25 each.
- Department of Forests and Waters, Harrisburg, Pa. State forests and recreational areas of Pennsylvania.
- State Geologist, Topographic and Geologic Survey, Department of Internal Affairs, Harrisburg, Pa. Send for list of publications.
- State Department of Highways, Harrisburg, Pa. State road maps.

NOTES FOR BULLETIN 233-C

CHAPTER V

Arithmetic

GENERAL STATEMENT FOR ALL GRADES

WE LIVE in a social world which the science of numbers has largely helped to develop. For example, our trade and transportation, our recreation, and daily living from the alarm clock's bell in the morning—all are dependent upon the science of numbers. We need to be able to use numbers to understand and interpret the world about us. Our ideas of space and form have a place in the scientific interpretation of our world, as well as in the appreciation of the beauty expressed in nature, art, and industry. Forward strides which are being experienced in every field of endeavor from our daily living with problems of food, clothing, and shelter to television, airplanes, and atomic energy, show the need of a revitalized and enriched form of mathematics which requires a specialized kind of knowledge.

Arithmetic is more than a set of specific skills and facts. It is a system of quantitative and qualitative thinking including facts, concepts, principles, and processes which are so closely allied that they cannot be separated in practice. This kind of thinking is of primary importance. It develops slowly and needs the incentive of being functional. (Arithmetic should be more of a challenge to a pupil's intelligence than to his memory.) Frequent stimulation, guidance, and evaluation by an expert teacher are required.

Current Trends in Arithmetic

Meaning has become a primary concern in the teaching of arithmetic.

1. Increasing emphasis is placed on the social learnings involved in arithmetic along with the emphasis on developing computational skill. For example, problems, such as those encountered in making things, in studying about conservation, nutrition, history, etc., increase knowledge and change attitudes. They are not simply numbers to manipulate.
2. Both the process of thought and the product of thought are considered important in arithmetic.
3. Increasing attention is being given to space concepts because of recent developments in aeronautics and astronomy. For example, Tokyo is nearer Minneapolis than San Francisco by air.

4. A more intense effort is made to develop appreciation of the concept of geometric form as found in our environment.

Thoughtful use of what is known about how children grow and develop will give direction and purpose to arithmetic as a functional subject.

1. Realization is increasing that good mental hygiene is basic to desirable and efficient learning. We are realizing increasingly that shattered homes, drunkenness, and crime are largely the outcomes of poor mental health, much of which is based in childhood experiences. Arithmetic, approached without meaning and function, can set up all sorts of poor attitudes and emotional blockings.
2. The teacher seeks to understand and appreciate the child and his background to further the

functioning of desirable practices in arithmetic.

3. Increasing attention is being given to the factor of readiness for arithmetic experiences and to the maturity of the learner.
4. Attention is given to the differences in the mental and social competency of children for the purpose of providing the materials, techniques, and motivation through which the individual pupil will achieve his highest degree of competency.
5. Increasing use is made of pupil self-direction and self-appraisal as techniques of guidance and motivation, within the limits of what is feasible at the various maturity levels.

Arithmetical concepts are being developed through pupil experience in natural settings and real situations.

1. An increased use is made of materials which provide concrete number experiences.
2. Many arithmetic experiences are set up to provide situations in which "pupil-pupil" learning takes place as well as "teacher-pupil" learning. Children can learn from each other as well as from the teacher, in group situations and in pairing off for some kinds of activities. An increasing use is being made of activities in which children meet and solve problems involving measurements of length, weight, and volume, size and space relationships, and fractional parts.
3. A systematic sequence of meaningful drill is provided to insure mastery.
4. Testing is used for diagnostic and remedial purposes. Good tests, whether standardized or teacher-made, reveal the need for further teaching and are not used solely as a means of rating either the pupil or the teacher.
5. Textbooks are seen as useful and efficient tools. They do not control or limit the entire plan for growth in arithmetical abilities. They are, rather, resources, general guides, and supplementary materials.

Objectives in Elementary Arithmetic

Instruction in arithmetic should:

1. Contribute to good character growth through the provision of activities which will develop personal and social habits, such as economy, fair play, sharing in the home, school, and at play, good judgment, and cooperation.

2. Develop logical thinking and reasoning which will enable the child to use skills intelligently in the everyday situations he encounters.
3. Develop an appreciation of how numbers have facilitated human progress, and of the social significances of arithmetic in the affairs of life. There could have been, for example, no radio without a knowledge of numbers.
4. Develop concepts and vocabulary basic to quantitative thinking (lists are given in each grade level).
5. Develop an appreciation of the habit of expressing quantitative relations in precise language.
6. Develop understanding, accuracy, and mastery of the essential skills in computation and number manipulations.
7. Develop right attitudes, interests, and mastery to form a proper background for continued interest in and use of mathematics.
8. Develop an inquiring attitude of mind through the use of problems for which the pupil must seek basic facts and numbers in encyclopedias, census reports, newspapers, and basic books in the content fields.

Suggestions for Teaching

This course of study is not designed to bind a teacher but rather to be a point of departure from which topics of the outline may be developed upward or downward, according to need, to promote maximum educational development of every child.

1. Social Uses

The teacher's big problem is to stress the socializing element in the field of arithmetic. Teachers should assist the children to use facts so that they develop those ideas, concepts, conclusions, and attitudes which will strengthen our democratic way of life.

Social application means developing and clarifying the arithmetical processes used in the home, school, store, bank, sports, travel, farming, and other industries, and the many everyday problems which arise in the children's own games, in the work of pupil committees, in purchases, in activities which involve making objects of all kinds, and other plans.

2. Teaching Through Units

A unit may be planned in arithmetic as well as in other subject matter fields. A whole class may

spend a few days or a few weeks on a unit, such as one on time, or money, a store, insurance, or savings.

A teacher may also relate a portion of the work in arithmetic to the current unit in another subject matter field. For example, the class might spend a few days specifically on learning to draw to scale, or to read large numbers, or to make graphs as a result of a need felt in another class.

A particularly good activity for the enrichment needed for gifted children is the study of an interest which may really amount to a unit in arithmetic. For example, enrichment units from a few days to a few weeks long might be developed by individuals or a small group, at various age levels, around such problems as "How Man Has Measured Time," "Money and Exchange," "The History of Standard Measurements," "Buying and Selling in a Grocery Store," "Making Our Christmas Budget Stretch," and "Our School Lunch." These units carry interest, activities, and motivation as well as social learnings and understanding, and they give practice in the meaningful use of numbers.

It is generally recognized that some of the content material in arithmetic is motivated by and used in meaningful situations with other subjects, such as those in the *Social Living Area*—geography, history, science, health, art, and language arts. Full advantage should be taken of these learning situations.

However, it must not be forgotten that much arithmetical material must be taught in an orderly fashion for the sake of sequential development. Short, snappy daily drills in computations should always run concurrently with any type of unit as a means of maintaining previous learnings.

3. Readiness

Readiness in arithmetic is primarily the product of relevant experiences which encourage sounder application and more intelligent interpretation. There must be readiness for basic understandings and fundamental skills, readiness for sound application, and intelligent interpretation. There is also such a thing as mathematical readiness which exists from day to day, and in changing from level to level or process to process in learning arithmetic.

The teacher is responsible for providing or capitalizing upon those experiences which will build readiness for all next steps throughout the years of the elementary school. Teachers should be ever alert to situations which will motivate, clarify meanings, and give real use to numbers. Mathematics

on any age level should be largely functional in the lives of the boys and girls at that level.

Enriching mathematical experiences should precede drill on all fundamental processes and these experiences should be so broadened and developed that they are challenging to children of high ability and low ability as well as average ability in the group. Mathematical experiences, such as outlined in each of the columns of the charts, pages 300-303, should be within the limits where individuals can achieve the success of accuracy in them. Grouping of children within age levels, or grade groups, for teaching reading is an accepted technique; it is suggested that the same technique be used in arithmetic.

Hand in hand with arithmetical readiness goes the practice of spiral and spaced learning. The chart, for example, shows how fractions are started simply in grade one and developed more deeply and widely through the years. This means extending various and more complex learnings both upward and downward, to take care of individual differences within the groups, so that a child may learn various elements in arithmetic at the time when he needs them and at a pace which is adaptable to his own thought process. Good mental health requires that a child be challenged and that he be conscious that he is growing and improving. Undue frustration causes poor mental health.

4. Vocabulary

Arithmetical terms or vocabulary should be developed for arithmetic just as the vocabulary is developed for specific reading lessons. In fact, it is one phase of reading instruction. Extensive use of oral and written problems without numbers will aid in the development of vocabulary, concepts, processes, and analytical thinking.

5. Diagnostic and Remedial Instruction

The organization of lessons, in following this outline, should be, in a real sense, diagnostic. It is recommended, therefore, that each teacher, at the opening of school in the fall, first utilize inventory and diagnostic tests, teacher-made and/or standardized, which conform with this course of study in order to discover the level of development of each child as well as his peculiar weaknesses or strengths in arithmetic. An inventory and diagnosis of the strengths and weaknesses of all children in the group should probably be made two or three times yearly. Learning, for each child, begins and continues from the point where he is, not where we might wish he were.

Continued on page 304

ARITHMETIC PROGRAM

CUMULATIVE CHART OF SCOPE AND SEQUENCE FOR THE PRIMARY DIVISION

(To be used only as interpreted in the pages following)

Primary Division

Grade or Year	I Social Uses	II Vocabulary	III Problem Solving	IV Money	V Time	VI Weights and Measures	VII Geometric Figures	VIII Counting and Writing Numbers
1			Oral solution of simple problems	Recognize cent, nickel, dime, quarter, half-dollar, and dollar	Calendar Clock time — hour and half-hour	Inch, foot, yard Cup, $\frac{1}{2}$ pint, and quart Dozen Tablespoon and teaspoon	Recognition of circle, square, and triangle	Build concepts 1 to 6 Count and read 1 to 100 (begin) Count: by 5's to 100 by 10's to 100 by 2's to 20 Read and write ordinals first to sixth
2	See the first (I) section of each grade level.	See the second (II) section of each grade level.	Problems without numbers Simple one step written problems involving addition and subtraction	¢ sign \$ sign Values: 5 pennies = 1 nickel 2 nickels = 1 dime Combinations of pennies, nickels, and dimes in one quarter	Year, month, week, and day Hour, $\frac{1}{2}$ hour and $\frac{1}{4}$ hour 7 days in week 12 months in year	Pint, inch, foot, yard, and pound	Half circle	Build concepts through 10 Read and write numbers 1 to 100 Count: by 2's to 100 by 3's to 30 Read and write "seven" to "twenty" Read and write ordinals, seventh to twentieth Place value — units, tens, and hundreds
3			Simple one step problems, involving skills in four fundamental processes, as learned	Addition, subtraction, and multiplication of cents and dollars Extend ideas of comparative values within 1 dollar	Telling time to 5 minute intervals 7 days in the week 365 days in year 12 months in year Names of days and months	12 in. = 1 ft. 3 ft. = 1 yd. 36 in. = 1 yd. 16 oz. = 1 lb. 2 pt. = 1 qt. 4 qt. = 1 gal. Temperature	Sphere, cube, triangle	Read and write numbers 1 to 10,000 Read and write "one" to "one thousand" Ordinals 20th to 40th Place values — units, tens, hundreds, and thousands Read and write Roman numerals 1 to 20

Grade or Year	IX Addition	X Subtraction	XI Multiplication	XII Division	XIII Fractions and Mixed Numbers	XIV Decimals and Percentage	XV Graphs and Scale Drawing
1	Thorough development of awareness or concept of the numbers "1", "2", "3", "4", "5", and "6"		Product not to exceed 6 (optional)	Dividend not to exceed 6 (optional)	Concepts of whole, half, and fourth		
2	Thorough development of awareness or concept of the numbers "1" through "6", if needed		Product not to exceed 10 (optional) × sign (optional)	Dividend not to exceed 10 (optional)	Concept of a third		
3	100 combinations Column additions with sum not to exceed 19 Two digit addends—no carrying + sign 100 combinations Column addition of 6 single digits 2 digits, with no carrying, to 3 digit numbers with carrying Horizontal addition of two single digit addends Adding with endings Checking	100 combinations Three digit numbers—no borrowing —sign 100 combinations—3 digit numbers with no borrowing, to 3 digit numbers with borrowing Zero as place holder Checking	By combinations—1's, 2's, 3's, 4's, and 5's 1 digit multiplier and 2 digit multiplicand Carrying × sign	By combinations—1's, 2's, 3's, 4's, and 5's 1 digit divisor and 2 digit dividend No borrowing or remainder ÷ sign	Concepts of $\frac{1}{2}$, $\frac{1}{3}$, $\frac{1}{4}$ as applied to a single object or to a group		

ARITHMETIC PROGRAM (Continued)

CUMULATIVE CHART OF SCOPE AND SEQUENCE FOR THE INTERMEDIATE DIVISION

(To be used only as interpreted in the pages following)

Intermediate Division

Grade or Year	I Social Uses	II Vocabulary	III Problem Solving	IV Money	V Time	VI Weights and Measures	VII Geometric Figures	VIII Counting Reading and Writing Numbers
4			Estimating answers Simple two step problems	Understanding of place value in money system Making change by the additive method and checking by subtraction Division with dollars and cents in dividend only	Telling time to the minute Rotation of earth— 24 hours A.M. and P.M.	Estimating weights and measures Mile, bushel, $\frac{1}{2}$ gal., $\frac{1}{2}$ doz.	Length, width, depth, height, perimeter	Place value through 100,000 Numbers to words and words to numbers through 1,000,000 Ordinals 20th to 50th Roman numerals to 50
5		See the second (II) section of each grade level.	Estimating answers More complex problems Problems with hidden questions	Division with dollars and cents in divisor and dividend Social application	Relation of days, weeks, months, and years Time to second Decade and century B.C. and A.D. Reading of schedules and timetables	Weights and measures Addition of denominate numbers Subtraction of denominate numbers Ton Time in music	Right angle Finding perimeter of square, triangle, rectangle, and circumference by actual measurements	Place value through 1,000,000 Ordinals 50th to 100th Roman numerals to 100
6	See pages 319-325.		Estimating answers More complex problems	Continued social application, and constant correct usage of points and signs	Time belts	Estimating weights and measures Complete denominate number experiences Comparisons of units of measure Knot, fathom Square measure	Area of square and rectangle	Place value through 1,000,000,000 Ordinals 100th to 500th Rounding off numbers Complete Roman numerals

Grade or Year	IX Addition	X Subtraction	XI Multiplication	XII Division	XIII Fractions and Mixed Numbers	XIV Decimals and Percentage	XV Graphs and Scale Drawing
4	Through 5 addends of 4 digits Horizontal addition of two two-digit addends Adding money Checking	Through 5 digit minu- ends and subtra- hends Checking	Continue multiplica- tion facts through 9 2 digit multiplier Zero at end of mul- tiplicand Checking	Continue division facts through 9 One digit divisors— all difficulties Checking	Concepts through 8ths and 16ths Meaning as applied to one thing or a group of things Addition and sub- traction of like frac- tions Checking	Number placement in money	Picture graph Bar graph Line graph Circle graph Scale in map reading Simple scale drawings
5	Through 5 addends with 5 digits Checking	Through 6 digit minu- ends and subtra- hends Checking	3 digit multiplier Zero difficulties Checking	Two digit divisors— all difficulties Checking	Addition and sub- traction of whole numbers and frac- tions Addition and sub- traction of mixed numbers with like fractions Multiply a fraction by a whole number and the reverse Multiply simple frac- tions by simple fractions Reduction Checking	Introduction of deci- mals through their relationships to money, limited to hundredths Decimal-fraction equivalents Addition with carry- ing Subtraction with bor- rowing Checking	Making, reading and interpretation of graphs and maps
6	Continue previous work for speed and accuracy Checking	Continue previous work for speed and accuracy Checking	Continue previous work for speed and accuracy By 10, 100, 1000 by annexing zero Zero difficulties Checking	Three digit divisors Checking	Completion of frac- tions, cancellations Dividing numbers: whole by fraction fraction by fraction fraction by whole whole by mixed mixed by whole mixed by fraction fraction by mixed mixed by mixed Checking	Place value to mil- lionths Fraction-decimal equivalents Multiplying decimals by 10, 100, 1000, by moving the dec- imal point Multiplying and di- viding: decimal by whole whole by decimal decimal by decimal Rounding off deci- mals	Continuation of mak- ing, reading and in- terpretation of graphs, charts, and maps

Continued from page 299

The child himself, as well as the teacher, should be cognizant of his progress. Where maturation warrants, the child should keep a record of his progress.

The teacher of any age group should use the suggestions for any previous level which a particular child needs. She should use the suggestions in Chapter IX with a child whose mental age is considerably less than his chronological age.

A teacher's personal diagnosis should be supplemented by a psychologist using individual tests of mental capacity wherever possible. It is the direct responsibility of the teacher to contact the proper administrative official to arrange for the services of the psychologist as early in the school year as seems feasible in the light of a study of the whole child. It then becomes the direct responsibility of the administrator and the teacher to provide for, and follow through on their part in the recommendations for the long-range plan for this child. (See pages 6 and 46.)

6. *Materials*

Wide use of many kinds of materials and home-community-school situations can make arithmetic real. It is quite obvious that the abstract should be taught only after understanding has been made through use of the concrete. Suggestions appropriate to maturity levels are included in each grade level in this course of study.

The textbook series should be selected carefully so that it may easily be used and coordinated with general plans. It is suggested that whatever series is selected should be used in its order since each series has a planned skill continuity. Workbooks should be used to meet individual or group needs. It is doubtful if page by page progression through the same material, as a class, is educationally sound.

Much concrete material for actual manipulation should be supplied at all levels.

7. *Drill*

Drill is important in the teaching of arithmetic. After understanding has been brought about, drill should be used to fix that which has been taught. Drills should be lively, interesting, and short. They should be planned for the children who need them to practice what they need. A good teacher makes sure that processes and facts are taught thoroughly and understood before drill is used.

A Suggested Informal Evaluation of Teaching Techniques

An annual faculty or district meeting to discuss the following questions should be professionally stimulating. If I, a classroom teacher, cannot reply in the affirmative, what can I do to improve my teaching of arithmetic, beginning now?

1. Do I make sufficient use of a wide variety of concrete materials?
2. Do I overemphasize computation to the detriment of the development of concepts and meanings?
3. Do I develop meaning and understanding before I drill?
4. Did I acquaint myself with the whole plan for growth in arithmetical abilities in this course of study to understand fully the relation of what I am doing this year to that whole plan?
5. Do I recognize individual differences and group my class accordingly?
6. Do I review and reteach when necessary?
7. Do I give proper consideration to readiness in the development of concepts, relationships, and computations? Have I been providing relevant experiences to bring about needed readiness?
8. Do I develop healthful attitudes toward arithmetic?
9. Do I take advantage of learning situations in arithmetical processes as they occur in other subjects?
10. Do I develop the ability and interest of each child to evaluate and keep a record of his own progress?

THE PRIMARY DIVISION OF THE ELEMENTARY SCHOOL

General Statements

The primary school years include the Kindergarten and the groups variously known as First, Second, and Third Years; First, Second and Third Grades; or the Six-Year-Olds, Seven-Year-Olds, and Eight-Year-Olds. By whatever name the groups are called, however, children as a rule spend three or four years in this general grouping, depending upon whether or not there is a kindergarten.

Some few children, after a careful individual study of the whole picture which should include a due consideration of physical, social, and emotional factors as well as mental ability, may move through the primary division in two years. Some few, after the same kind of individual study, may need four years. Indeed, in extremely rare cases, probably never in most schools, a child may need five years. Always, such study and planning should be discussed with and approved by the proper administrative and/or supervisory officials, with the advice and counsel of the school nurse and psychologist.

There can be no rule. The teacher should be ever alert to any kind of a pupil situation which is a problem, or which is likely to lead to a problem. Each teacher should hold himself responsible for getting adequate help where necessary to set up a fitting program for the child or children under consideration. Whenever the number of children who have exceptional difficulty seems out of proportion with the total number of children in the class group, a general evaluation of the teaching methods and the total school situation should be made.

The First Year in the Primary Division

This group is composed of children who may well vary as much as two years in chronological age and considerably more than that in mental age. The great majority of this group, state-wide, are approximately six years old, are within the range of normal intelligence, are generally healthy in mind and body, and may be expected, in general, to participate intelligently, although at varying speeds, in the following experiences. Each class group may, however, vary widely from this general picture, and a first requirement for every teacher is to study her class group so that she may intelligently plan that which is appropriate for them.

All children need guidance in recognizing the numerical aspects in familiar situations, and in using a variety of objective materials suitable for developing number concepts. They need guidance in making the transition from the concrete to the abstract, and in extending such ideas as those of size, time, form, space, and positional relationship.

A few children will enjoy and profit from experiences extended beyond these suggestions. A few will be able to profit from considerably less. One or two may have such exceptional problems as will challenge the teacher's heart and mind and will call for the use of all her personal and pro-

fessional resources. Each teacher must evaluate her plans as to standards for an individual child and for her group as a whole, each year with each new group of children. No child should be held back from doing what he is ready and able to do. Neither should any child be handicapped by the confusion which results for him if he isn't "ready" for next steps in learning.

I. SOCIAL USES

The teacher should explore the classroom, the children's interests and activities out of school, and the community in order to discover social situations with possibilities for developing number concepts and to make the use of numbers functional.

A. Take advantage of the unplanned situations which normally arise throughout the day

1. Reading page numbers
2. Reading the date on the calendar
3. Using the numbers on classroom doors
4. Writing in the date on a blackboard calendar
5. Keeping game scores
6. Numbering pages of booklets
7. Counting children for "sides" in a game
8. Counting to distribute or collect books and supplies
9. Telling time for recess. Is it noontime?
10. Getting chairs ready for a group

B. Dramatic play

1. Using telephone numbers and house numbers
2. Who is tallest for "father"?
3. Dividing "cookies" for a tea party
4. How many in a crew on a fire engine
5. Playing postman and using house numbers on desks

C. Planned activities and their follow-up

1. Visiting a store, firehouse, post office, etc.—In playing "store" or playing "house," emphasis should be informally directed toward wholesomeness of food for children's growth.
2. Planning, making, stocking, and furnishing a store with plans for sizes, shapes, length, height, space relationships.
3. Planning, building, and furnishing a house, using ideas of comparative sizes, measurements, etc.
4. Taking excursions and field trips. How far? How long will it take us to walk? How many

are going? How many "pairs" of us will there be?

5. Keeping pets. Building their homes and feeding them, costs, houses, etc.

An Illustration of the Number of Possibilities in Building a House and Dramatizing Family Life

1. Reading and writing numbers
 - a. Numbers on yardstick; foot ruler
 - b. Number of rooms, doors, and windows (in plans and record of activity)
 - c. Number of people in family—ages
 - d. Telephone number
 - e. Street number of the house
 - f. Numbers of pages of books on which house and family stories start (use of tables of contents of books to find suitable stories)
 - g. Numbered list of things to do; supplies to get; stories to read, etc.
 - h. Number of windows—count by 2's to find how many shutters (this is really good drill)
 - i. Height of each member of family
 - j. Numbers on radio dial for children's program
 - k. The calendar—special events, birthdays, etc.
 - l. Figures on the clock
 - m. Number of milk bottles left by the milk man

2. Number vocabulary

- a. Concepts of higher, lower, wide, wider, tall, taller, short, shorter, larger, smaller, longer, triangle (shape of one piece of framework), square, oblong, more than, less than, older, younger. $\frac{1}{2}$ and $\frac{1}{4}$ in sharing food, etc.

3. Opportunities for informal drill in number combinations

- a. Children in family play games such as dominoes, checkers, and other children's games
- b. Share, buy, sell, lose, give away, receive, find or see objects, etc.
- c. Make collections—books, marbles, shells, stones, paper dolls, and the like

4. Use of money (comparative value)

- a. Cent, nickel, dime, quarter
 Child's savings in home bank or in school savings fund for personal satisfactions, for Sunday School, for community drives
 Buying icecream, candy, toys, etc. Going to store for mother

Getting money for a good school lunch.
 Wise spending of money for school lunch involves the consideration of nutritional values

5. Measure of time—hour and half-hour

- a. Time for bed, to rise, to dress, to bathe, to go to school, to come home, for meals, to wash dishes, for children's radio programs, etc.

6. Measures of length

- a. Length of house (feet)
- b. Width of house (feet)
- c. Size of windows (inches)
- d. Comparable sizes—inch, foot or 12-inch ruler, yard—3 feet or 36 inches
- e. Crate furniture, as chair arms, 22 inches high; chair back, 27 inches high
- f. Bricks in fireplace and chimney (chalk lines on red paint)

7. Measure of quantity

- a. Quarts, pints, and cups of milk
- b. Dozens, half-dozens, eggs, cookies, etc.
- c. Pounds of food on the grocer's scales—when buying fruit for a party, for example
- d. Teaspoons and tablespoons

II. VOCABULARY

Introduce and develop the following concepts through such activities as games, dramatizations, use of concrete materials, making and constructing articles of all kinds, and conversation. The child should acquire speaking, reading, and writing vocabularies to meet his individual needs and abilities. At this level, the speaking vocabulary should be far greater than the reading vocabulary, which in turn should be greater than the writing vocabulary. In other words, these children can be expected to talk better than they can read, and to read better than they can spell and write.

above and below	just before, just after
adding to	many, more
as big as, as small as	narrow, wide
as far as	on, in, out
as long as, as short as, as tall as	large, larger, largest
as low as, as high as	long, short
as many as	near, far
big and little	right, left
circle	round
come between	small, large —
fast and slow	larger, largest
	smaller, smallest

few	some, all
first, last	square
front, back	straight
half, whole	taking away
here, there	tall, taller, tallest
high, low	top, bottom
in back of	under, over
in front of	up, down
inside, outside	

III. PROBLEM SOLVING

Children meet many number problems in the home, school, and community. The teacher should maintain a friendly relationship with boys and girls so that they will like to relate these experiences orally.

The children need guidance on the part of the teacher in the development of elementary skill in solving problems. The teacher should present problems to the children with concrete materials. Examples: (1) Divide 6 nuts among 3 children. How many does each have? (2) A child has 2 pencils. Give him 2 more. How many does he now have?

IV. MONEY

The child extends his ideas of money as he uses a cent, nickel, dime, quarter, half-dollar, and dollar in his experience situations involving his transportation, contributions, and purchases. An ingenious teacher will find a wealth of these learning situations simply by being alert to the everyday living of her children, and will find little need for stage setting.

V. TIME

The child gradually begins to recognize the hour and the half-hour through meaningful and actual situations. He starts recognition of the months and the days of the week through continuous use of the calendar for holidays, birthdays, vacation periods. (See also the Chapter on Social Living.)

VI. WEIGHTS AND MEASURES

The child begins to understand the meaning of inch, foot, and yard as he measures classroom objects and the materials he needs as he plans and makes things.

As the child measures ingredients in various food preparation activities, he will use containers such as cups, half pint jars or bottles, pint jar or bottle, quart jar or bottle; he will observe the relationship between cup and pint, half pint and pint, pint and quart, teaspoons and tablespoons.

VII. GEOMETRIC FIGURES

Young children can recognize and see difference in shapes and sizes of figures which is basic to many of their present activities as well as in later use. Repeated casual recognitions of the geometric forms—square, circle, and triangle in nature, in games, and in the child's environment will help to build a background for later study of areas, volumes, and perimeters. Examples: The gable end of a house, shapes of flower petals, leaves, the moon, the park, a window, a mirror, an airplane, a ring for a game, a triangle used in a rhythm band.

VIII. COUNTING, READING, AND WRITING OF NUMBERS

A. Build Number Concepts, 1 through 6

The teacher introduces, develops, and applies number concepts and relationships by using home-school-community experiences. The child's ideas should be classified, organized, and extended so that he will acquire exact concepts of quantity and develop a thorough understanding of the numbers 1, 2, 3, 4, 5, 6 in that order. This necessitates purposeful planning and concentrated systematic development by the teacher. It also necessitates a wide variety of real situations and concrete objects. It may require weeks of work with some children to establish fully the meaning of any one number.

While working on 2 the teacher should continue 1, for cumulative learning and for a planned program for the maintenance of skills; while working on 3, maintain 1 and 2; and so on. One pattern which has been used successfully to develop the concept of a number is given on page 308.

B. Count and Read

The teacher helps the child establish skill in rational counting or enumeration and in rote counting.

1. To get the idea of the serial order of number. Number games and rhymes may be used to establish number names in their proper order.

Examples:

- a. *Rational counting*—Counting plates before a party, bottles of milk needed for the day, books, chairs, scissors, papers needed for the group; counting for checking when collecting them.
- b. *Rote counting*—One, two, buckle my shoe; three, four, shut the door; five, six, pick up sticks; seven, eight, lay them straight; nine, ten, a big fat hen. Or, just saying one, two,

three, four, etc., without actually enumerating objects.

c. *The serial order of number*

Cardinals: To fill in missing numbers.

1 — 3 — 5 —

Ordinals: Place the book on the first desk, fifth desk, sixth desk.

2. To recognize the number groups without counting may be developed by using cards showing various arrangements of number groups, by using colored sticks, or by grouping blocks.

Examples:

- a. $\bigcirc \bigcirc \bigcirc$ recognize as "three," not having to count "one, two, three."
 - b. Count by 5's to 100; by 2's to 20; by 10's to 100.
3. As the need arises develop reading recognition of the number names one, two, three, four, five, six.

IX, X, XI, AND XII

These sections have limited application at this level. See Chart, pages 301 and 303.

XIII. FRACTIONS

The child extends his concepts of whole and half as he divides familiar objects. He observes that there are two "halves" and that the two "halves" are equal. Gradually he comes to recognize the symbol $\frac{1}{2}$. The child acquires a beginning concept of one-fourth of an object as he folds and cuts paper in his activities into four equal parts. He observes that the four parts are equal and gradually recognizes the symbol $\frac{1}{4}$. Probably most of the valuable situations will be informal and will not be a part of the "arithmetic" class.

XIV, XV.

These sections do not apply to this level. See Chart, pages 301 and 303.

A Suggested Pattern for the Development of the Concept of a Number

This pattern develops 6 and may be used to develop the concept of any of the numbers 1 through 10.

In initiating the development of the concept of the number 6 the teacher should draw upon the interests and experiences of the group. No child should be hurried. The teacher should recognize the wide range of abilities within the class which

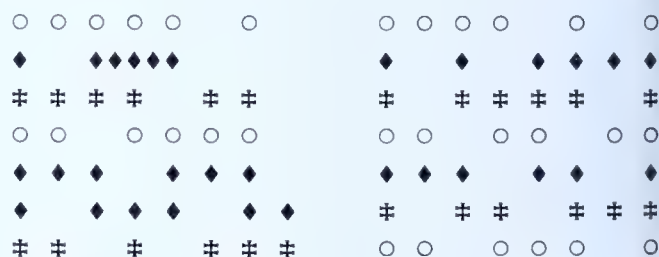
necessitates the slower children requiring more manipulation of concrete objects and spending more time on this type of work than those of more ability.

The child develops the *meaning* of 6 as he:

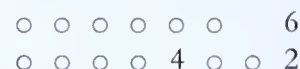
1. Associates 6 with familiar situations, such as candles on a birthday cake, chairs at a table, desks in a row, books on a table, windows in a room, pencils on a desk, blocks in a box, children in a group, erasers at the blackboard, etc.
2. Manipulates objective materials, such as blocks, beads, spoons, spools, pennies, disks, balls, beans, cards, sticks, etc.
3. Sees similar objects in the classroom in groups of 6, as chairs, books, erasers.
4. Experiments with the arrangement of 6 objects in various patterns such as:



5. Arranges 6 objects into two or more groups and observes various combinations such as:



6. Matches picture representation with actual groupings of 6 objects. For example, draws pictures of 6 chairs to illustrate arrangement of 6 chairs in various groups. (The teacher should exhaust every means of illustrating groups as applied to 6 as indicated above before continuing with the next step in this outline.)
7. Selects symbols placed on cards to correspond with various arrangements and grouping of objects and places the symbols beside each group of objects.



8. Associates the symbol 6 with pictured representation of six objects such as circles, crosses, or squares.
9. Gradually comes to use (orally) combinations

involved in 6 without using concrete objects or pictured representation, as he needs these combinations in experience situations.

The meaning of adding (sum not to exceed 6), subtracting (minuend not to exceed 6), and (optional) multiplying (product not to exceed 6), and (optional) dividing (dividend not to exceed 6), is extended as the child:

1. Adds as he arranges single objects or groups of objects to make 6.
2. Subtracts as he takes away a single object or a group of objects, from the group of 6.
3. Uses such terms as: and, are, add to, take away from, more than, less than, greater than, fewer than, times, and how many times.
(How many times can you find one, two, or three in six?)
4. Gradually comes to use (orally) numbers without using objects as he recalls actual experiences.
(Optional for children with strong ability in the use of numbers.)
5. Multiplies as he arranges six single objects or equal groups to make 6; examples, six 1's are 6, three 2's are 6, two 3's are 6. (He does not drill on a "table," nor with flash cards to learn "multiplication." He rather establishes the basic understanding that if one has two *threes*, he has six.)
6. (Optional for children with strong ability in the use of numbers.)
Divides as he actually arranges the six objects into six single objects or into equal groups; examples, a group of six can be divided into six 1's, and a group of six can be divided into three 2's or two 3's.

The symbolic representation of the combinations in 6 is extended through transferring from concrete to semiconcrete (pictured representation) to abstract.

1. Addition

$$\begin{array}{rcll} \diamond \diamond \diamond \diamond \text{ and } \diamond \diamond \text{ are } 6 & \diamond \diamond \diamond \diamond & 4 & \begin{array}{r} \circ \circ \ 2 \\ \circ \circ \ 2 \\ \hline \circ \circ + 2 \end{array} \\ 4 & + & 2 & = 6 \end{array}$$

2. Subtraction

$$\begin{array}{rcll} \circ \circ \circ \circ \oslash \oslash \oslash 6-2=4 & \text{or} & \begin{array}{r} 6 \\ -2 \\ \hline 4 \end{array} \end{array}$$



Many Teaching Materials Are Used in Establishing Number Concepts

3. Multiplication (optional)

$$\circ \circ \circ \quad \circ \circ \circ \text{ are } 6 \quad \text{or} \quad 2 \times 3 = 6$$

4. Division (optional)

$$\begin{array}{r} \circ \circ \circ \circ \circ \circ = \circ \circ \circ \quad \circ \circ \circ \\ \text{Six can be divided into equal groups of three} \\ \begin{array}{r} 3 \\ 2 \overline{) 6} \end{array} \end{array}$$

The Second Year in the Primary Division

The pupils in a second year class are, over the State in general, about seven years old. There are,

of course, some a little younger and some a little older. The great majority of these children are within the range of normal intelligence and generally healthy in mind and body. They can reasonably be expected to work with success with the concepts and skills in the following arithmetic outline. There will be in practically every classroom a very few children for whom this outline should be extended downward to the work outlined for the previous year, and a few gifted children for whom the ingenious teacher should provide real enrichment.

Early in the school year, the teacher should spend sufficient time to ascertain the arithmetical abilities of her children. This is necessary before any systematic study of numbers. She should also review carefully for three or four weeks to overcome the "summer lapse."

Each teacher should be familiar with the work outlined in this course of study for her age group in its relationship to the whole program. She should see this second year as a stage of growth which must knit well with last year and lead on to next. These children still need much guidance in the further development and extension of the number concepts, relationships, arithmetical processes, skills, problem solving, and social uses related to arithmetic which were begun last year.

I. SOCIAL USES

The teacher should continue exploring the school, home, and community in order to discover social situations with possibilities for developing the number concepts and be ever alert to use good "learning situations" as they occur in unplanned situations.

Opportunities for using numbers which occur throughout the day in unplanned and natural situations:

1. Experience reading charts involving number vocabulary.
2. Counting the pupils needed for game groups by 1's, 2's, and 5's.
3. Identifying a particular item in its sequence by use of ordinals, as the fifth one in line for a drink, the sixth page we've read.
4. Writing numbers up to 100—as pages in a book, number of pages read, page on which a lesson begins, numbering pages in a booklet, keeping scores.
5. Reading numbers, as those on the calendar and the clock. Is this month shorter or longer than last month? Etc.

6. Adding and subtracting scores, votes, milk money.
7. Selecting and buying a nourishing lunch.
8. Dividing group into halves, thirds, and fourths for games and contests.
9. Counting money collected for milk, seed sales, admissions, and Junior Red Cross.
10. Writing dates on papers, booklets, and reading charts.
11. Making a calendar.
12. Telling time of recess, lunch hour, dismissal, and assembly.
13. Measuring lengths and widths in making such things as posters or paper place mats for serving milk.
14. Counting by dozens and half-dozens the number of cookies used for a party.
15. Construction and art activities involving circle, square, triangle, and half-circle.
16. Counting toys and books for checking purposes when it's "put-away" time.
17. Making change with play money.
18. Using the money signs ¢, \$, and (.) (for cents) for playing store, participating in school or community drives for money, or keeping account of one's own money.
19. Playing games and keeping scores.

Examples of arithmetic activities which should be provided, mostly in relation to units of work in the content fields. These will provide the material for problem solving for periods varying from one or two days to a week or two. Some of the following recur again and again during the year:

1. As related to a store: buying carefully, using shopping list, making change correctly, care in handling fruits and vegetables, waiting one's turn gracefully.
2. As related to the lunch period: judging a well-selected lunch, comparative values for one's money, avoiding waste.
3. As related to keeping pets: measuring and costs involved in making classroom "homes" for pets, feeding them, getting license if needed, purchasing correct food for the particular kind of pet, feeding and watering schedules by clock.
4. As related to a party: number to provide for, proper kind of food to serve the age groups invited, amounts to purchase, cost for all, and cost per class member, figuring on how many



Children Can Learn to Be Courteous While They Learn to Spend Money

of the basic seven foods are used. (Parties are more fun when planned for some particular purpose or for some group, as entertaining mothers, the kindergarten, one's younger brothers and sisters, for the "birthday children" of the month.)

5. As related to use of time: how the day is used, at home and at school, how to save time by planning ahead to have things ready for games, by "queuing" up, etc.
6. As related to holidays: how many decorations of various kinds do we need for the Christmas tree, how big, how many will that mean each one will make? How many apples for Halloween, their cost? How many eggs for coloring at Easter, costs, etc.?

**An Illustration of the Number Possibilities
in a Unit on a Toy Store**

Activities Which Use Numbers in a Functional Way

1. Purchase inexpensive toys at a neighborhood store.

2. Bring toys to school and arrange according to a price list already posted on the blackboard or bulletin board.
3. Post pictures of toys with prices from magazines, papers, catalogs.
4. Set up toy store for business, complete with price tags.
5. Arrange a price list of the toys in stock.
6. Make all sorts of signs advertising the toys.
7. Dramatize buying and selling situations.
8. Learn to read a sales slip and understand it.
9. Measure paper for drawings.
10. Make the store from orange crates, computing sizes in relation to free space in the classroom as well as needed display space and counters.
11. Count the toys in it. Take inventory of the stock.
12. Use simple addition when buying more than one toy.
13. Make change with pennies, nickels, and dimes.

14. Learn the meaning and value of pennies, nickels, and dimes.
15. Learn the meaning of *more than* and *less than, together*.
16. Learn the meaning of *long, short, big, high, and low*.
17. Adding simple combinations not exceeding 10.
18. Fill out sales slips.
19. Learn to give change.
20. Check accounts before closing the store.
21. Learn to group toys in a pleasing way.
22. Make individual toys as gifts, using measurements.
23. Read simple seatwork directions involving numbers.

Concomitant Learnings

1. Keep word lists of new words.
2. Learn to be courteous and polite in the store.
3. Learn to use hammer, saw, nails, and paint.
4. Model with clay.
5. Learn neatness, cleanliness, and to clean up after work.
6. Make signs artistically.
7. Decorate the store in a pleasing manner in order to attract attention.
8. Learn to copy neatly.
9. Learn to handle tools carefully.
10. Learn which toys are safe for children to play with and also their proper places when not in use.
11. Take turns in dusting and arranging the toys.
12. Keep hands clean.
13. Learn how to take care of each toy.
14. Learn good manners in a store.

II. VOCABULARY

Develop the meaning of arithmetical terms as is done in a regular reading class, that is through the use of activities, concrete materials, actual manipulation and other meaningful situations. Every real experience that the child has in dealing with quantitative ideas and relationships should be capitalized. Every child should acquire a speaking, reading, and writing vocabulary to meet his individual needs and abilities. The speaking vocabulary should still be considerably larger than the reading and it in turn larger than the writing vocabulary.

Suggestions: (In addition to suggestions for previous age groups.)

add	how many	plus
addition	hundreds	subtract
beginning, end	middle	subtraction
between	minus	tens
equals =	nearer than	thick, thin
farther than	next	times
heavy, light	odd, even	units

III. PROBLEM SOLVING

Continue the development of skills in problem solving. Problems should include all the arithmetical facts, processes, and principles taught to date. Particular emphasis should be given to developing the ability to understand the situation in the problems before the child is permitted to perform the actual adding, subtracting, multiplying, or dividing.

Problems without numbers will afford reading experiences, vocabulary development, and learning of the processes involved before actual computation takes place. Examples of problems without numbers are:

1. Jane's pets are some ducks, a dog, a pig, a rooster, and some kittens. How can she tell how many pets she has? (She can count them, or she can add.)
2. Bob and Patsy were raising rabbits. Several rabbits ran away. How could they know how many rabbits were left? (They can count them, or they can subtract.)
3. John had some money. He gave some of it to his brother, Tommy. How would John know how much money he has now? (He can count it, or he can subtract.)

On this age level simple one-step written problems with numbers in addition and subtraction, should be introduced and developed. The teacher should plan these along with her plans for reading, spelling, and writing, since there is a clear relationship between all these.

IV. MONEY

Continue the extension of number experiences involving money and develop meaning and use of the sign "\$" for dollar and the sign "¢" for cent. In writing totals for classroom contributions, teacher may use decimal forms.

V. TIME

Telling time: hour, half-hour, and quarter-hour. Extension of experiences involving year: 12 months,

52 weeks, 365 days and leap year, 366 days. The use of the calendar throughout the year in such activities as weather records, "birthday children," holidays, and the like, will be helpful. Also build a sense of time in taking advantage of all opportunities to ask such questions as "How many days until your birthday?" "How long ago was that?" "When will you be seven?"

VI. WEIGHTS AND MEASURES

Develop with concrete materials, in meaningful situations. Extend the meanings of inch, foot, yard, cup, half-pint, quart, teaspoon, tablespoon, and dozen. Develop the concept and meaning of pint, pound, and such fractional parts of measures as are pertinent and useful. Examples are: $\frac{1}{2}$ inch, $\frac{1}{2}$ foot, $\frac{1}{4}$ yard.

VII. GEOMETRIC FIGURES

Extend the meaning and use of such geometric forms as circle, square, and triangle. Introduce and develop the concept of half-circle as when arranging chairs for children while playing games or by using it as a design in art.

VIII. COUNTING, READING, AND WRITING OF NUMBERS

Review number concepts taught in previous year (which may be different with different groups) and build number concepts through 10. This is a continuation of the number development program as described on pages 308-309. The same general pattern of development may be used.

Read and write the numbers from 1 to 100. Many of the children, perhaps most of them, can do this from last year. They should, however, review and fix this. A few children may need to be working on this through most of this second year before it is really understood and fixed.

Extend the counting by 2's to 100.

Count by 3's to 30, first using concrete materials.

Develop reading recognition of the number names seven, eight, nine, ten.

Develop beginning ideas of place value with numbers through 100 (no abstract drills) as the child:

1. Uses numbers through 100 in familiar situations involving money.
2. Appreciates that 12 cents involves 10 cents (or a dime) and 2 cents more; that 25 cents in-

volves 2 tens (or 2 dimes) and 5 units (or 5 cents) more; that 53 cents involves 5 tens (or 5 dimes) and 3 units (or 3 cents) more.

3. Recognizes the symbols for the numbers through 100; recognizes one place numbers (1-9) as units, two place numbers (10-99) as tens and units, and three place numbers (100-999) as hundreds, tens, and units.
4. Develops an understanding of the zero as a place holder; that a 0 in the one's column means "not any" ones, in the ten's column "not any" tens, and in the hundreds column "not any" hundreds.

IX. ADDITION OF WHOLE NUMBERS

Extend the meaning of adding. The child continues to build number concepts through 10. See suggested pattern for building concept of number 6, pages 308-309. By the time a thorough understanding of the number concepts through 10 has thus been established, the child should:

1. Know the 100 addition combinations, and be able to use them.
2. Add two two-digit addends with no carrying.
3. Do column addition with the sum not to exceed 19.

X. SUBTRACTION OF WHOLE NUMBERS

Extend the meaning of subtraction. The child continues to build number concepts. (See suggested pattern for building concept of number 6, pages 308-309.) By the time a thorough understanding of the number concepts through 10 has thus been established, the child should:

1. Know the 100 subtraction combinations and be able to use them.
2. Subtract two-digit numbers with no borrowing. Example:

$$\begin{array}{r} 78 \\ -54 \\ \hline \end{array}$$

4 ones from 8 ones is 4 ones
5 tens from 7 tens is 2 tens

XI. MULTIPLICATION OF WHOLE NUMBERS (optional)

The meaning of multiplying is extended through 10 as the child continues to build number concepts. (See suggested pattern for building concept of number 6, pages 308-309.) After a thorough understanding of the number concepts through 10, the child should be able to multiply numbers orally with a product not to exceed 10. Example: "Two fives make ten."

XII. DIVISION OF WHOLE NUMBERS (optional)

The meaning of dividing is extended through 10 as the child continues to build number concepts. (See suggested pattern for building concept of number 6, pages 308-309.) After a thorough understanding of the number concepts through 10, the child should be able to divide orally numbers with a dividend not to exceed 10, no remainders. *Example*: "Nine cookies divided among three children is three for each."

XIII. FRACTIONS

These are basic concepts to be used freely and intelligently, *orally*, and *not done with abstract figures*.

1. The concepts of one-half and one-fourth are continued and extended, and the concept of one-third of a single object is introduced and developed as the child:

- a. Divides familiar objects such as plates, candy, and sticks among classmates, observes that each share is equal; uses the terms third, one-third, two-thirds, and three-thirds in referring to the parts.
- b. Uses containers for measuring liquids.
- c. Compares wholes, halves, thirds, and fourths, using objective materials as they occur in familiar situations.
- d. Gradually comes to recognize the symbol $\frac{1}{3}$ as $\frac{1}{3}$ of a unit or $\frac{1}{3}$ of a group, as the teacher skillfully makes the tie-up between the abstract symbol and the concrete experience.

XIV AND XV

These sections do not apply to Grade Two.

The Third Year in the Primary Division

This group is composed of children who, statewide, probably vary as much as two years in chronological age, perhaps as much as three years in certain situations where there are grave problems related to the backgrounds of the children. Certainly more variation than that will exist in mental age. The great majority of these children, however, will be approximately eight years old, will be within the range of normal intelligence, will be healthy in body and mind, and may be expected to participate intelligently in the number experiences here outlined. All these children still need much guidance in the further development and extension

of number concepts and meanings, relationships, arithmetical processes, skills, problem solving, and social uses as related to arithmetic.

A few children will enjoy and profit from experiences extended beyond these suggestions. Some will begin now to enjoy using independent reading as a means of further learning. Some will enjoy and will profit from the using of numbers in carrying out such little ventures of their own as out-of-school earnings, construction activities, or hobby activities. These should be encouraged by the teacher by her interest and by the occasional highlighting of them in related class activities.

A few children will not be able to handle this much material nor to grow so rapidly as to learn what is outlined for this third year in one year. These children should go slowly and thoroughly and not be handicapped by the confusion which results for them when they are not ready for the next step in learning. They should progress as fast as they can, but learn well what they attempt.

The teacher should spend sufficient time to ascertain the arithmetical abilities of her pupils before beginning any systematic study of numbers at the beginning of this school year. Flexible grouping throughout the year is one of the best teaching techniques. Each teacher should be familiar with the entire arithmetic plan as well as the work outlined for her age group so that she may fully appreciate how her work fits into the whole pattern of growth.

I. SOCIAL USES

The teacher should continue exploring the classroom, school, home, and community to discover social situations with possibilities for developing the number concepts. The children's school newspapers and their out-of-school activities can materially function at this level.

Everyday related experiences which can motivate and enhance the study of arithmetic:

1. How far away do the children in our story live?
2. How long ago did they live?
3. Following number cues from the children's weekly newspapers.
4. Numbers in sports and games.
5. Rhythms in music and art.
6. Keeping records—weather, books read, number of pages read, attendance.
7. Making designs for place mats or posters.

Types of experiences which should be provided both for their social content and their number values:

Buying and Use of Money

1. Planning a party, buying food, setting the table, providing supplies for games, and good manners at a party.
2. Buying tickets, books.
3. School banking.
4. Post Office. Children of this age go to the post office. They need to learn cost of regular stamps, air mail, etc. As they need to use other services of the post office, such as money orders, registering a letter, putting on special delivery, they should be shown how.
5. Buying school supplies, either individually or as a group.
6. Cost of shoes and shoe repairing, saving through proper care.
7. Planning and improving school grounds or home grounds. Beauty has a monetary value. It pays to keep house and yard in good condition. Cost of repairing broken windows.
8. Earning and spending carefully. Budgeting under headings such as recreation, school supplies, personal, saving for something special. Think in terms of children's allowances or earnings.
9. How much do things in everyday life cost—draw a chart which pictorially gives the idea. Does a set of bedroom furniture cost as much as a car? How much do shoes cost and which are the best values? Children this age have surprisingly little judgment about comparative prices and values.
10. Taking trips—computing time, distance, cost by automobile, by train, and by airplane. Discuss when each type of transportation would be preferred.
11. Children who have out-of-school earnings should be helped in keeping simple accounts and building budgets which meet their individual needs.

Concerning Food and Nutrition

1. Make simple cookbooks of foods easily prepared for refreshments and wholesome for growing children, using pictures. Calculate yield or number served by each recipe. Also cost. Children can understand simple fractions as in case of parts of a cup or tablespoon.
2. Buying school lunch, getting the most good and nutritious food for the money.

Concerning Living Together

1. Measuring and assembling supplies to make toys or toy models for group play.
2. Using the telephone. How to dial, how to telephone long distance, how to use telephone book, telephone manners.
3. Field trips: nature walks, museum, zoo, parks, collecting of leaves, flowers, stones. Planning expenses involved.
4. Sharing things: pleasures such as cakes, nuts, candy; the housework in the classroom; the teacher's time; the work and play at home.
5. Sketching plans for rearrangement of room when setting up a library corner, building a grocery store or post office or pet house or nature corner.

II. VOCABULARY

Continue developing vocabulary by using the techniques used in the teaching of reading. *Meaning* of arithmetical terms comes largely from actual experiences in dealing with quantitative ideas and relationships. Each child should acquire a speaking, reading, and writing vocabulary to meet his individual needs and abilities. The speaking and reading vocabulary needs in arithmetic are now beginning to be about the same with the more advanced readers. In other words, these children can read almost all the arithmetic vocabulary they use. Individual writing or spelling vocabularies, however, are not yet as large as the reading or speaking vocabularies. For example, a child may have been using the word "temperature" orally for two or three years; this year he can read the word, but it is not yet essential that he be able to spell it.

1. Suggestions: (In addition to suggestions for previous age groups.)

degree	how many	sum	weight
difference	length	temperature	width
divide	multiply	thousand	+
division	multiplication	times)
height			

2. Abbreviations:

pt., qt., in., ft., yd., lb., doz., oz., gal., min., yr., mo., wk.

III. PROBLEM SOLVING

Continue the development of skills in solving one-step problems including the four fundamental oper-

ations in arithmetic: addition, subtraction, multiplication, and division. Problems without numbers should be used to continue the development of reading experiences, vocabulary development, and learning of processes involved before computation takes place.

IV. MONEY

Develop the ability to add, subtract, and multiply through written problems which concern dollars and cents. Use problems that grow out of the lives of this particular group. Examples: Cost of new shoes, a whole family going to a movie, feeding chickens or pets, buying groceries for Mother, and other real problems. More suggestions were included under Item I, Social Uses.

V. TIME

Extend telling time to include five-minute intervals. Extension of calendar experiences involving names of four seasons, twelve months, and seven days of the week. Nearly every child should know and use these orally by the end of the third year; most children should read these words; a few will be able to spell some or most of them.

VI. WEIGHTS AND MEASURES

1. Develop further the meaning and use of:

12 in. = 1 ft.	16 oz. = 1 lb.
3 ft. = 1 yd.	2 pt. = 1 qt.
36 in. = 1 yd.	4 qt. = 1 gal.

2. Develop also the commonly used fractional relationship of the above measurements. Those in common use may vary from community to community as industries vary, although such terms as " $\frac{1}{4}$ lb. of butter" are probably used state-wide.

VII. GEOMETRIC FIGURES

Introduce and develop the concepts of sphere, cube, and rectangle through use of blocks, globes, balls, walls, desk tops, windows, designs in art, and designs found in nature.

VIII. COUNTING, READING, WRITING OF NUMBERS

1. Build number concepts beyond 10. (This is closely tied to 5 below.)

2. Read and write the numbers 1 to 1000.
3. Develop recognition of the number names from ten to one thousand.
4. Continue the development of ordinals from twentieth to fortieth.
5. Extend the child's ideas of place value with numbers through 1000 by:
 - a. Using the numbers through 1000 in familiar situations. (Develop the idea of 1000 concretely using an abacus, bundles of colored sticks, or packs of paper as shipped to the school.)
 - b. Learning that 1235 is twelve one hundreds, three tens and five units; learning that number 1000 is ten one hundreds; or one thousand; that the number 1235 is one thousand two hundreds, three tens, and five units.
 - c. Recognizing the symbols for the numbers in four places, 1000 through 9999.
 - d. Developing an understanding of the zero as a place holder; for example, a 0 in the thousands column means "not any" thousands.
6. Develop an understanding and the ability to read and write the Roman Numerals I through XX, stressing where and how they are now used.

Examples: On clocks, pages in some parts of books, etc.

IX. ADDITION OF WHOLE NUMBERS

The meaning of adding is extended through 100 as the child continues to build number concepts beyond 10. After a thorough understanding of number concepts beyond 10 the child should:

1. Add the 100 combinations with accurate speed.
2. Do column addition of six single digits.

Example:

1
4
7
3
6
+2
—
23

3. Add two-digit numbers with no carrying.

Example:

47
+21
—
68

4. Progress to adding three-digit numbers with carrying.

$$\begin{array}{r} \text{Example: } 473 \\ + 149 \\ \hline 622 \end{array}$$

5. Do horizontal addition of two single-digit addends.

$$\text{Example: } 4 + 5 = 9$$

6. Recognize the zero as a place holder in addition.

7. Check addition by adding in reverse order.

8. Add by endings. Adding by endings involves adding a two-figure number in one mental operation. If a pupil adds the example on the right, and thinks—"26 and 7 are 33", he adds by endings; however, if he thinks, "7 and 6 are 13; 1 and 2 are 3", he is adding by using the carrying procedure.

$$\begin{array}{r} 26 \\ + 7 \\ \hline 33 \end{array}$$

Adding by endings is used in column addition. In the example on the right, adding upward, the sum of the first two numbers, 11; or adding downward, the sum of the first two numbers is 13. In each case, the sum is a two-figure number. In this example, it is necessary to add an unseen two-figure number to a seen one-figure number. This step is known as "adding by endings." This is also known as "higher decade addition."

X. SUBTRACTION OF WHOLE NUMBERS

The meaning of subtraction is extended through 100 as the child continues to build number concepts beyond 10. After a thorough understanding of number concepts beyond 10, the child should:

1. Subtract the 100 combinations with accurate speed, in both vertical and horizontal forms.
2. Subtract three-digit numbers with no borrowing.

Example:

$$\begin{array}{rcl} 489 & 3 \text{ ones from 9 ones is 6 ones} & \\ -263 & 6 \text{ tens from 8 tens is 2 tens} & \\ \hline 226 & 2 \text{ hundreds from 4 hundreds is 2} & \\ & \text{hundreds} & \end{array}$$

3. Subtract three-digit numbers with borrowing.

Example:

The ones are subtracted first. We cannot take 4 ones from 2 ones. We take 1

of the tens and use it with the 2 ones to make 12 ones. That leaves 6 tens. 4 ones from 12 ones is 8 ones. We cannot take 8 tens from 6 tens. We take 1 of the hundreds and use it with the 6 tens to make 16 tens. That leaves 3 hundreds. 8 tens from 16 tens is 8 tens. 2 hundreds from 3 hundreds is 1 hundred.

4. Recognize the zero as a place holder in subtraction.
5. Check subtraction by the additive method.

XI. MULTIPLICATION OF WHOLE NUMBERS

The meaning of multiplication is extended through 100 as the child continues to build number concepts beyond 10. After a thorough understanding of number concepts beyond 10, the child should:

1. Know all multiplication combinations through 9×5 .
2. Multiply any two-digit multiplicand by 1's, 2's, 3's, 4's, and 5's, no product over 495, i.e. $99 \times 5 = 495$.

$$\begin{array}{r} \text{or} \\ 99 \\ \times 5 \\ \hline 495 \end{array}$$

3. Recognize the zero as a place holder in multiplication.

XII. DIVISION OF WHOLE NUMBERS

The meaning of division is extended through 100 as the child continues to build number concepts beyond 10. After a thorough understanding of number concepts beyond 10, the child should:

1. Divide a two-digit dividend by 1's, 2's, 3's, 4's, and 5's; with no problem requiring borrowing, or leaving a remainder.

$$4 \overline{) 48} \quad \text{not} \quad 4 \overline{) 48}$$

2. Check division by multiplying quotient by divisor.

XIII. FRACTIONS

Extend the concept and meanings of the fractions: halves, thirds, and fourths by further use in familiar classroom and community situations involving fractional parts of a unit and a group. No board or paper work should be given with these abstract symbols.

XIV-XV

These sections do not apply to Grade Three.

THE INTERMEDIATE DIVISION OF THE ELEMENTARY SCHOOL

General Statements

These children have now been receiving instruction in arithmetic for three years, a few of them for four years. During these next three years they will do a lot of growing up. Children from nine to twelve do change and develop greatly. (See pages 73-74.) These characteristics of growing boys and girls should help teachers decide upon types of interests and activities. The great majority of these children, state-wide, will fall within the range of normal intelligence, are generally healthy in body and mind; and can be expected, at varying paces, to handle intelligently as much as has been outlined here year by year. By this time, however, good teaching will have resulted in a wide variation in abilities. The gifted should be very able; the general picture of the class group will show some variation; there will be a few who will need special help.

Exceptional Needs

A few children who vary greatly from the class group as a whole, are to be found in every school. Any one of these who has not recently been thoroughly studied as to all aspects of his growth and background should certainly have such a study made at the beginning of these intermediate school years. No one pattern can be given for teaching these children. Each presents an individual problem that must be handled individually whether the basic problem is social, emotional, physical, or mental, or a combination of these. (See Chapter IX for specific suggestions for the mentally retarded.) Two important things to remember, however, are first that they are exceptions to a general pattern and therefore do not set the pace or the general pattern of expectancy or of behavior for the class group; and second, it is each teacher's responsibility to help each of these children to grow, so that at the end of the year he is a better child and a more able child than he was at the beginning of the year, even if the degree of improvement is considerably less than that of the group as a whole.

Enrichment for children of unusual ability in mathematics may be provided by encouraging individual projects or hobbies.¹ These should be largely self-directive on the part of the pupil, with

little responsibility on the part of the teacher, other than interest and encouragement. Some possibilities would be the study of monetary values in sports, insurance statistics, banking, credit system, foreign exchange, barter and exchange, national and state subsidies, systems of "chance," costs of social agencies such as prisons and schools, coins of other lands, school garden, the mathematical implications of some current unit of work in another subject matter field, actual responsibility for school funds, or the working out of actual constructions, and many others that will occur to an alert teacher. Sometimes these children can take an actual and responsible part in community drives and other activities.

Grouping

Grouping within a room-group continues to be a fundamental characteristic of good teaching. In fact, it becomes increasingly necessary as children progress through school. These groups should be formed and reformed throughout the year as careful diagnosis of the progress of individuals shows strengths and weaknesses. For example, no semi-permanent slow, medium, and fast groups should be formed. Rather, the class may on occasion work as one group, on another in two or three groups for specific purposes, such as needed drill on combinations, technique of reading problems, corrective work in any of the four fundamental processes. The personnel of these groups may well change from week to week or month to month, as review and diagnosis indicate the need. Prolonged absence, unusual difficulty with a new process, a related reading difficulty in problem solving, a student received from another school whose grade placement does not parallel this outline, or some other causes may affect grouping.

Developing Vocabulary

There should be a high degree of alertness on the part of pupils and teacher to see mathematical relationships in every study and every activity during the day. Wherever possible, concrete materials and audio-visual aids should be used to clarify and extend meanings. A good idea to keep in mind is that vocabulary is not really established until the pupil uses it freely and correctly in a natural manner. For example, the word "discount" may be said to be fairly well established when a child freely offers such a comment as, "I got new shoes Saturday. Brown's were selling them at a discount." Refer to pages 319-325 for some ideas about relationships to other fields. Refer to pages 333 and 335 for

¹Write for lists of publications on mathematical subjects to American Council on Education, 744 Jackson Place, N. W., Washington, D. C., and Pollak Foundation, Jaffrey, New Hampshire.

illustrative units. Refer to page 91 for vocabulary building in the Language Arts.

Reinforcing Learnings

Full advantage should be taken of every opportunity to motivate and to make meaningful use of numbers throughout the day's activities and in all other subject matter fields. There is a rhythm of numbers in art in its repetitive patterns, its design and balance. There is a wealth of opportunity to see numbers in the basic rhythms of music, and in games and sport. The fields included in the study of social living, i.e., geography, history, and science, offer many fruitful chances to enhance the learning of numbers—time lines, drawing of maps to scale, preparation of charts and graphs, use of population figures, sizes of countries, comparative lengths of rivers, and a thousand and one other ideas that will occur as days develop. At each of these three grade levels, page 318 to page 338, as well as on the pages concerned with the Primary division, many places for this correlation of learnings are suggested. Problem solving may be highlighted in the class activity where it fits, and then pulled out for intensive study and work during an arithmetic period; or a teacher may prefer to work on the arithmetical processes involved right then and there; or she may wish to handle this whole program in a rather individual way. The important thing is that both the teacher and the class see how the use of numbers reinforces other areas of learning, and that they see uses for arithmetical processes and are in turn able to use the processes needed. Refer to pages 319-325 for some ideas about relationships to other fields. Refer to pages 333 and 335 for an illustrative unit.

Maintaining Learnings

Arithmetical concepts and facts which have been either introduced or largely learned in the previous years cannot be depended upon to *stay learned* unless a definite maintenance program is carried on throughout all the years of the elementary school. Every week all children, even the most able, should do some work which involves the concepts and the processes which were originally presented in previous years. It is important that the children understand why they do this work and that they learn to do the exercises provided (whether they be oral or written) with speed and accuracy. The maintenance exercises should not be used as homework or considered as "busy work," nor allowed to become the means of learning poor study habits by

wasting time. Children readily understand that a good baseball pitcher or a good musician never stops practicing the skills he started to learn years before and that he practices efficiently because he wishes to perform efficiently. They can see that maintaining a skill requires systematic practice.

The Uses of Evaluative Procedures

Both the children and the teacher should understand why periodic evaluations are made and how the data thus obtained can be best used.

Evaluations of where they stand on the mastery of skills and processes and of their fundamental understandings and abilities to use numbers should be made early each year. A teacher may make her own tests which will cover materials and processes previously introduced, or she may use standardized tests. If the latter are used, she should be sure that they do test what she wants tested. All tests do not fit all grade placements and it is unwise and unfair as well as unsound practice to use a test that does not fit the avowed purpose.

The data thus obtained should be the basis upon which temporary grouping is done, specific review planned, individual reteaching done, or adjusted curriculums planned for the children with exceptional needs.

From time to time, weekly in some few cases, monthly in others, or at irregular intervals, informal evaluations should be made. Some types of informal tests are included in basic textbooks and workbooks. Others the teacher must make for herself. A profitable procedure is to give an informal oral check-up or a written test to each group as it seems to be ready for the introduction of a new process. Sometimes the teacher should give the whole class a written test. Often the need for regrouping is indicated by the data revealed.

Near the close of the year further checking is needed in order to leave true statements, as nearly objective as possible, for the next year. These statements, enclosed in a child's permanent record folder, are invaluable to the teacher who receives the child the following year.

Social Uses

For grades 1, 2, and 3, this section on *social uses* was developed as Roman Numeral I, under each grade. For grades 4, 5, and 6, it is here developed in one section to which all teachers of the intermediate division should refer. This is done for two reasons:

First, these social uses can't be taught thoroughly and stopped at any one level. They must all be approached again and again, as meaningful opportunities present themselves or can be planned for these boys and girls. For example, a child comes to understand some things about the proper use of money, at nine; he'll understand more thoroughly about a wider range of the uses of money at ten; he'll develop still richer and deeper understandings at eleven and twelve. In fact, he'll continue to learn throughout life. This idea of *growth* then is the first reason.

The second reason is that meaning develops best in relation to real problems, and there won't be enough of these real problems in any one year to allow for permanency of learning. Each teacher should, at least at monthly intervals, go over these suggestions concerning social uses to see if she has taken advantage of all unplanned and natural situations as they came about in other subjects and in the daily living in the classroom. She should then make plans to deliberately include some of these types of problems, using actual personal or community data. The idea of *reality* then is the second reason.

Since the ultimate uses of arithmetic are social, all number understandings should be developed and all number facts learned as tools for use throughout life. Of course, tools are important. They must be acquired and kept readily available and keen for use. Nevertheless the ownership of a good set of tools is of little avail unless the owner sees the places where the tools are useful, knows which tool to select, and has good social standards as well as standards of accuracy to guide him in their uses.

Problems should stimulate independent research by means of interviews, use of reference books, investigations into local affairs. They lead to careful evaluation and discussion by the class. Throughout all social uses, activities and discussions, the learning that goes along with all living should be stressed—good manners.

There is a great deal of overlapping between the suggestions which follow. This overlapping simply points up that life is really like that, and the teacher should feel free to apply these ideas in any pattern which is functional for her and for her group of children.

Suggested Relationships and Activities

1. Activities which might concern a whole school at the same time.

- a. Holding a pet show—estimating expenses, probable income, entries, keeping accounts, needed spaces and arrangements, lengths of ribbon for prizes
- b. Giving a school circus—measuring, buying, making costumes and props. Tickets, timing, etc.
- c. Improving the schoolgrounds — planning, estimating needs, costs, buying, responsibilities
- d. Holding a fair or festival where preserved foods from the gardens can be exhibited. There is much mathematics involved in values, time saved, planned exhibit space, and other related activities

Using Time Skillfully and Wisely

1. Arranging the day's program.
2. Time saved by lining up to get lunch, to enter buses, to buy tickets, etc.
3. Timing in games and sports.
4. Planning for any school trip as to time involved en route and for activities planned.
5. Radio announcements from different U. S. time belts.
6. Daylight Saving Time and Standard Time.
7. Radio announcement from other countries, other time belts.
8. Punctuality and good manners.
9. The time one is in a movie compared to time of enjoyment with things that can be purchased with the same amount of money.
10. Rush or peak hours in local traffic and holiday traffic. Traffic and good manners.
11. Timing in fire drills.
12. Traffic light timing.
13. Relation of speed of car to time it takes to stop.
14. Using time wisely at home and at school—making plans for the day's, the week's, the month's activities, checking accomplishments in relation to plan from time to time.
15. Using schedules and time tables of transportation companies.
16. Sunrise and sunset and seasons. Times may be found in daily papers and kept on weather calendar.
17. Time spans in growth—yearly crops, trees, crops, various forms of animal life.
18. Time as concerned with messages: day telegrams, night letters, air mail, special delivery, special handling, collections, sorting places and methods.

19. Time sequence in history.
20. Time telling instruments.
21. A young puppy needs food five times a day. Figure out a good schedule.
22. Secure time tables from bus lines, railroads, and airlines. Consult them for time of leaving and of arrival to compute average speeds per hour between chosen points. Compare speeds and rates for the different types of transportation.
23. Collect and display items from current newspapers and magazines giving figures on new records in speed and travel. Example: U. S. Navy's jet-propelled Douglas Skystreak makes a world record of 650.6 miles per hour.
24. Secure information about the cruising airspeed, the rate of fuel consumption, and the fuel supply carried by different types of planes. This may be found at local airports, in manufacturers' bulletins, and in aviation magazines. On a map or globe select and measure distances for routes of flight between various points so that problems of fuel consumption and refueling may be worked. The study of costs can be added.
25. Compare distances between cities by air, by railroad, and by highway. Secure air maps and measure distances by each route. Make a bar graph for comparisons.¹
26. On a globe determine and measure the shortest possible routes between your home community and ten of the key cities of the world. Find the average speed of a commercial airliner and that of a long-range military plane. Make a pictograph or a bar graph to illustrate the number of hours distant each city is from your town by airliner and by bomber.
5. Taxes—cost of upkeep of streets, services needed largely due to poor citizenship habits about cleanliness and proper care of trash.
6. Taxes on what the children themselves buy—movie tickets, pop, jewelry, and handbags. What things which we couldn't supply for ourselves are thus paid for.
7. Costs in communication, long distance telephone, cables, telegrams, etc.
8. Fruits, vegetables and eggs are sometimes sold by weight, sometimes by measure. Is one way an advantage to the consumer? If so, when and how?
9. Cost, over a six-week period, of a dog's food, bedding, and all other needs. What is the value received for the money?
10. Different kinds of tickets—services purchased—their values.
11. Spending and saving money—elementary budgeting.
12. Study restaurant menus to select a balanced meal—meaning of a la carte—how to order, tip wisely, and pay checks.
13. Interesting facts about silver, gold, paper money, government bonds, city bonds, etc.
14. Significance of designs, words, pictures, dates, numbers, etc., on money.
15. What is included in cost of food to the consumer?
16. Estimate cost of waste of food from that uneaten on plates in school cafeteria.
17. Monetary values and other values in making gifts.
18. Stretching money through care in use of school supplies. This is especially significant if children pay for personal supplies from own budget.

Using Money Wisely

1. Transportation needs and costs—for personal trips and school excursions—comparative costs of various kinds.
2. U. S. Post Office—costs of mailing letters, books, parcel post, money orders, special deliveries, etc.
3. Treasurer's reports for clubs, best uses of club's money, comparative costs and values of various plans, saving for special activities.
4. What the discount on certain bills means.
19. Choosing toys to get the most pleasure for the money.
20. Problems involved in helping with weekly family marketing.
21. Buying from a catalog—writing orders.
22. Enumerating places and learning about where coins are used—parking meters, telephone pay stations, candy machines, stamp machines, etc.
23. Make marketing lists in keeping with a wholesome food and drink program for picnics, birthday parties, counting total cost and the cost to the individual. It would be difficult to estimate

¹Air maps of Pennsylvania may be secured from the Pennsylvania Aeronautics Commission, Harrisburg State Airport, New Cumberland. No charge is made for obsolete maps. Current revised maps cost \$.75.

how much a simple party on his birthday may add to some child's sense of security. His birthday is "his day."

24. Compare costs of commercial recreation with the types of recreation which can be provided in the home or by cooperative effort in the neighborhood. For example: The total cost of a family admission to the movies in comparison with other forms of recreation at home.

25. Cost of trip to the zoo, park, or some natural type of recreation (mountains, seashore, state park). Number of gallons of gasoline needed, mileage comparisons.

26. Develop the idea of family planning and sharing as in a family council, in which all members participate—discussing such problems as:

How much money have we to spend?

What part of it must go for rent or taxes, operating expense?

What part is needed for food, clothing, recreation, welfare, etc.?

How can the children in the family contribute to the income by taking care of their clothing and of their homes?

Use a reasonable theoretical income applicable to your community to make the discussion concrete.

27. Making money out of school, paper routes, raising kittens or puppies, running errands, etc. These should be the kinds of work that are possible for the children of your class.

28. List clothing needs and calculate costs—repair and cleaning jobs children can do, costs of laundry and cleaning due to carelessness, selecting types that wear well, making clothes last by proper drying, hanging up, pressing, repairing. Calculate cost of new shoes, cost of care and repair of them. "Money saved is money earned."

29. Compare volume and weight and cost of condensed, powdered, evaporated, skimmed, and fresh milk. (Use of fractions and equivalents.)

30. Good buys in wholesome food—the wise spending of money. Discuss the purchase of packaged food versus bulk goods; the necessity for proper storage in the home of perishable foods. Buying foods in season and watching for sales. The teacher will find the weekly food ads valuable.

31. What is so-called standard housing? Sub-standard housing? What is the cost of maintenance—taxes, water rent, utilities, etc.?

What is the value of your time, making minor repairs, mowing the lawn, clipping the hedge? Compare cost of new screen door compared with cost of making repairs yourself as soon as break occurs.

32. What monetary values are involved in taking care of our homes—the walls, furniture, plumbing fixtures, as compared with replacing them.

33. Cost of public utilities in homes—how to get the best use most reasonably. Saving through turning gas low, turning off electric lights when not needed, making repairs promptly.

34. Compare net weights, sizes, and values in different size cans and different ways of buying bulk commodities.

35. Choosing between articles of the same type. Learning to make choices.

36. There are many problems involved in the care of toys, bicycles, sports clothing, and equipment; for example, a new bicycle compared with keeping the old one in repair; making team uniforms last two years instead of one.

37. Keeping personal accounts.

38. Keeping accurate accounts of expenses and income whenever problem involves profit or loss.

39. Saving accounts.

40. Local travel, commuter's ticket books, bridge plates, cost of car upkeep.

Food and Money

1. Review "basic seven" foods setting up standard for an approved United States diet. Percentages of cereals, meats, etc., used in diets of peoples in other lands. In 5th and 6th grades these facts could be illustrated by graphs. Present calorie rations as read about in papers.

2. Learn to interpret food value charts. Comparative values of food offered in cafeteria. Cost of a nutritious and tasty lunch. Consult your cafeteria or home economics teacher for problems of local significance.

3. What are some equivalents which are needed to use cooking recipes intelligently in home cooking? Quantity cooking? Perhaps someone can bring in an army or navy cookbook. Magazines often carry these recipes.

4. How a circus manages the food problem.

5. Volumes of commonly used ice cream containers, paper bags, etc.

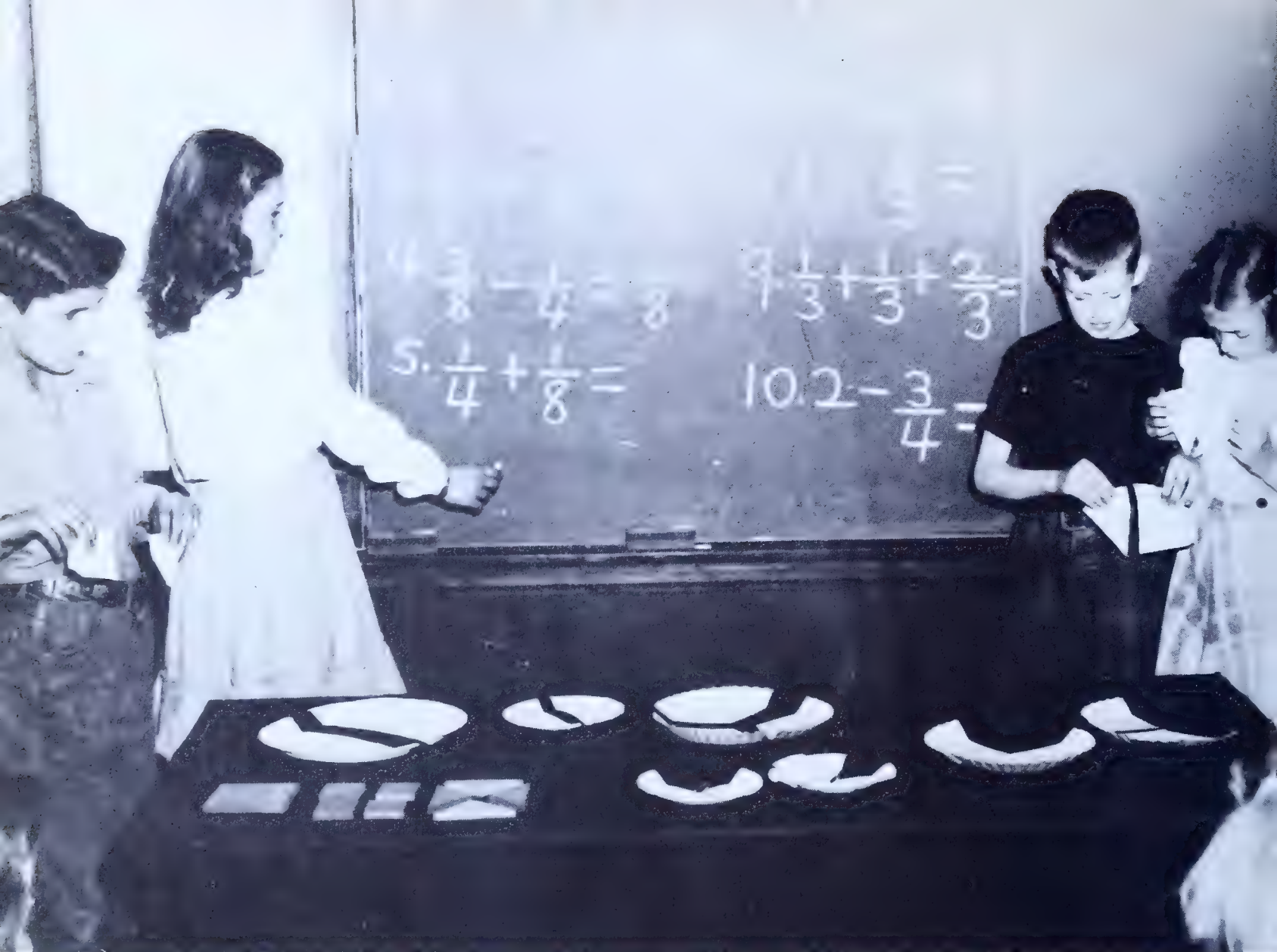
6. Local milk supply as length of routes and numbers of stops, cost of equipment, etc.
7. Many of the suggestions listed under "Using Money Wisely."

Miscellaneous

1. Reading gas, electric and water meters.
2. Mathematics involved in industries visited. Examples: amount of spray for orchards, feed for animals, yield per acre; fuel used to run plant, output, number and capacity of freight cars loaded.
3. Sizes used in making adequate storage plans: functional closets, cupboards, refrigerator spaces, automobile bodies, dining cars, etc. Many popular home and women's magazines are helpful with ideas.
4. Distances by train, bus, airplane.
5. Use of scales in drawing.
6. Measures of vision and hearing: measures used by the physician in making physical examinations. (Time this to the group's physical examination.)
7. Pressure gauges on furnace, pressure cookers. The significance of the position of the indicator.
8. Barometer and thermometer. Many examples will come about through making ones that really work.
9. Pulleys, levers, and measurement of mechanical advantages.
10. Radio wave length, significance of dial numbers.
11. Make or interpret weather maps in daily papers. This involves drawing to scale, ideas of "lows and highs," rate of approach of storm, wind velocity, pressure, etc.
12. Scouting—There are many problems in the Handbook that are concerned with Troup Trips, etc.
13. Junior Red Cross—The magazine is full of ideas. Projects undertaken involve measurements, money, postage rules, distances, and countries, etc.
14. Library records—Circulation of books, costs, perhaps school discounts, etc.
15. Sports—Keeping records of time, speed, scores, player ratings, etc.
16. Conservation problems of your district, county, and State, and as highlighted in a study of our

nation's history or the geographic aspects of living. (Local facts can be found through local farm bureaus, State agricultural agents, Chamber of Commerce, etc. Bulletin No. 214, *Conservation Education*, is available upon request to the Department of Public Instruction, Harrisburg.)

17. Conservation problems as they arise in other subjects, in community living, and in the children's personal lives. Local organizations interested in the land, safety, and commerce will serve as resources for material.
18. Gardens or farms
 - Estimate costs—seed, fertilizer, tools
 - Estimate profits
 - Study charts and graphs—growing seasons, frost dates, time needed for various crops for maturation.
19. Coal, gas, oil, or type of fuel consumed (Minerals)
 - Estimate amount used in home.
 - Find amount consumed by nation. Compare with other nations.
 - Find approximate quantities which remain.
 - Estimate amounts wasted. (Make charts, graphs.)
20. Trees and plant life
 - Measure tree: diameter, approximate height, shadows at various times of day.
 - Estimate trees needed for planting—park, orchard, hillside.
 - Collect and mount leaves and flowers in groups, i.e., 6, 3, etc.
 - Conservation rule—Collect 1 from 12 specimens.
21. Water
 - Find amount of water consumed
 - Make charts and graphs showing comparisons: per cent of minerals, chlorine.
 - Number of fish in aquarium—1 inch of fish for 1 gal. of water.
22. Erosion of soil
 - Charts and graphs illustrating amount eroded by wind, land, water.
 - Estimate value of top soil eroded at cost per ton.
23. Birds
 - Per cent of food consumed—seeds, insects.
 - Make chart or pictograph.
24. Animal life
 - Find proper ratio for grazing—cows, deer, etc.



Making Fractions Meaningful by Using Concrete Materials with Abstract Symbols

How many animals to area of land? Estimate food needed for farm animals.

25. Use of graphs as a method of presenting accident statistics.
26. Interpret statistics as a basis for regulations, such as certain street parking rules, or the removal of a school hazard. Contact here for local police.
27. Knots and fathoms are used in many sea stories.
28. Many service men used a different vocabulary to tell distance while they were in European countries. How do total measurements compare with miles?
29. What measures does the druggist use in measuring liquids? Powders?
30. Standard sizes in cars, other machinery. What vocabulary means, as nail weights, sizes of nuts, bolts, washers, tires, etc.?
31. Standard sizes in clothing and what they mean.
32. Use of census figures.
Immigration from different countries, where

they settled. Diversity of peoples in the U. S. and in the world.

33. Population density figures, and their significance.
34. Contributions to our knowledge of mathematics by various peoples: Arabs, Chinese, Romans, etc.
35. Counting on an abacus.
36. Use of geometric figures in building bridges and buildings—arches, keystones, angles, perpendicular and horizontal lines.
37. Use of Roman numerals on buildings, in movie titles, etc.
38. Standardization of sizes of cars, weights in packages. Meaning of No. 2 or No. $2\frac{1}{2}$ can, etc.
39. Planning and measuring of materials and space relationships in construction activities.
40. The speedometer and its relation to the size of the wheels.

41. Time as concerned with speeds

a. *The Airspeed Indicator*—Since planes fly free above the ground, their speed cannot be measured by revolutions of wheels or other contacts with the ground. Instead, a special instrument called an *airspeed indicator* measures the difference between the pressure of the still air at the plane's altitude and the pressure of the air meeting and moving over the plane. The faster the plane flies, the greater will be the pressure of the air meeting it. This difference in pressure is read on the instrument in miles per hour "airspeed."

b. *Airspeed and Ground Speed of Planes*—Since the air moves over the earth at different speeds and in different directions as our changing *winds*, how fast a plane moves over the ground depends upon two factors, its airspeed and the wind. Example: A plane with a cruising airspeed of 120 m.p.h., flying in a 30 m.p.h. *head wind*, a wind moving in the opposite direction, actually has a *ground speed* of 90 m.p.h. If the wind does not change, what would be the ground speed if the plane flew in the opposite direction? Find experiences in the lives of the pupils to illustrate and enlarge upon this point. The daily newspapers are full of appropriate examples if one looks for them with a discerning eye.

42. Use aerial photographs to point out different shapes, such as triangles, squares, rectangles, and circles and to develop problems in the measurement of perimeters and areas.¹

The Fourth Year in the Intermediate Division

(This is the first year of the intermediate school years)

See introductory section on pages 318-319.

Study chart on pages 300-303 to get the organization by headings and to understand the continuity of the whole plan.

I. SOCIAL USES

This section is developed on pages 319-325.

¹For aerial photographs of your own district, write to the State Planning Board, Harrisburg, for correct serial number. Name your city or town or describe accurately your location within a township if not a borough. Order by this serial number from the U. S. Department of Agriculture, Washington, D. C. The 20"x24" enlargements, scaled approximately 600 feet to the inch, cost \$2.00.

II. VOCABULARY—(See page 318)

addends	hundred	post-meridian
amount	hundred	(P. M.)
ante-meridian	thousand	process
(A. M.)	information	product
balance	legend (map key)	quotient
bushel	length	rectangle
cube	midnight	rotation
decade	mile	score
depth	minuend	solve
difference	minute	sphere
digit	multiplicand	step-division
dividend	multiplication	subtrahend
divisor	multiplier	sum
estimate	noon	temperature
fraction	ordinals through	thousand
graph	<i>fiftieth</i>	triangle
height	ounce	width
	perimeter	withdrawal

III. PROBLEM SOLVING

1. Develop problem solving through simple two-step problems.
2. Practice in estimating answers.
3. Make wide use of thought problems without use of numbers.
4. Make wide use of pupil-made problems concerning their own families and community.
5. Refer to pages 319-325.

IV. MONEY

1. Develop an understanding of place value in our money system.
Example:

	tens	ones	dimes	cents
\$	4	2	.	3 6

2. Develop the understanding of making change by the additive method and checking the change by subtraction through practice with real or toy money.

Examples:

Change from a dollar on a 78¢ item would be counted thus:

78 — 79 — 80 — 90 — \$1.00

Checked by subtraction thus:

\$1.00
— .78

.22

3. Teach dividing money with dollars and cents in dividend only

$$\begin{array}{r} .85 \\ 5 \overline{) \$4.25} \end{array}$$

4. Insist on correct use of dollar sign, cent sign, and decimal point.
5. Teach multiplication using dollars and cents.
6. Refer to pages 319-325.

V. TIME

1. Develop the ability to tell time to the minute—for all children who cannot demonstrate their ability to do so.
2. Develop the understanding that rotation of the earth takes 24 hours and causes day and night.
3. Develop understanding of ante-meridian (A.M.) and post-meridian (P.M.)
4. Use many everyday life problems in teaching time. (See pages 319-325.)

VI. WEIGHTS AND MEASURES

1. Develop understanding of measurements through concrete use of measures and an understanding of their relationships to one another. Use problems with measures involving $\frac{1}{2}$ pint, pint, quart, $\frac{1}{2}$ gallon, inch, foot, year, mile, cup, dozen, $\frac{1}{2}$ dozen, ounce, pound, degrees in temperature, and bushel.
2. Practice in estimating heights, widths, lengths, and weights.
3. Develop an appreciation of space as applied to position and travel.
4. Refer to pages 319-325.

VII. GEOMETRIC FIGURES

1. Develop an appreciation of geometric form as seen in the world about us.
2. Develop an understanding of depth and height as well as length, width, and perimeter.
3. Develop meanings of circle, square, triangle, fractional circle, sphere, cube, and rectangle with an understanding of their differences and their different uses through discussion of and practice in their actual uses. (See pages 319-325.)

VIII. COUNTING, READING, AND WRITING NUMBERS

1. Develop place value in our number system from ones through hundred thousands with emphasis on our system of tens (decades) and

zero as place holder. Much emphasis must be placed upon this development of place value to make numbers more meaningful. *Example:* The number 4 2 0 2 6 is composed of the following:

4	2	0	2	6
ten thousands	thousands	"not any" hundreds	tens	ones

2. Develop understanding of why we add the *ones* column, then the *tens* column, then the *hundreds* column, etc., as well as the habit of doing so.
3. Develop the understanding that each column is a multiple of ten over the column to its immediate right.
4. Teach transferring numerals to words and words to numerals up to 1,000,000.
5. Develop ordinals, including word forms, through fiftieth (50th).
6. Develop the correct procedure in reading and writing Roman numerals through 50, in connection with today's uses of them.

IX. ADDITION OF WHOLE NUMBERS

1. Review, reteach, if necessary, and continue drill for maintenance purposes and for speed and accuracy on work of previous levels.
2. Develop addition up to five addends of four digits each.
3. Develop horizontal addition up to two two-digit addends.

Example: $12 + 12 = 24$.

4. Practice in adding money with particular emphasis on placement of dollar sign and decimal point.
5. Practice checking by adding in reverse order.

X. SUBTRACTION OF WHOLE NUMBERS

1. Review, reteach, if necessary, and continue drill for maintenance purposes and for speed and accuracy on work of previous levels.
2. Teach borrowing through bridging three decades.

Example:

$$\begin{array}{r} 2004 \\ - 1236 \\ \hline 768 \end{array}$$

- Teach single and double zeros in subtrahend and minuend.

Examples:

$$\begin{array}{r} (1) \quad 1003 \\ - 226 \\ \hline 777 \end{array} \quad \begin{array}{r} (2) \quad 2004 \\ - 109 \\ \hline 1895 \end{array}$$

- Practice in subtraction when subtrahend and minuend are placed horizontally using the minus sign.

Example: $12 - 8 = 4$

- Practice in subtraction of money with emphasis on placement of dollar sign and decimal point.
- Teach checking subtraction by the additive method.

Example:

$$\begin{array}{r} 36 \\ - 24 \\ \hline 12 + \\ \hline 36 \end{array}$$

- Develop an understanding of placement of figures in the quotient.
- Develop one digit divisors through all difficulties in step division.

Examples:

$$\begin{array}{r} (1) \quad 123 \\ 3 \overline{) 369} \\ \underline{3} \\ 6 \\ \underline{6} \\ 9 \\ \underline{9} \\ 0 \end{array} \quad \begin{array}{r} (2) \quad 124 \\ 3 \overline{) 372} \\ \underline{3} \\ 7 \\ \underline{6} \\ 12 \\ \underline{12} \\ 0 \end{array}$$

$$\begin{array}{r} (3) \quad 122 \text{ remainder } 1 \\ 3 \overline{) 367} \\ \underline{3} \\ 6 \\ \underline{6} \\ 7 \\ \underline{6} \\ 1 \end{array} \quad \begin{array}{r} (4) \quad 120 \\ 3 \overline{) 360} \\ \underline{3} \\ 6 \\ \underline{6} \\ 0 \\ \underline{0} \\ 0 \end{array}$$

$$\begin{array}{r} (5) \quad 123 \text{ remainder } 1 \\ 3 \overline{) 370} \\ \underline{3} \\ 7 \\ \underline{6} \\ 10 \\ \underline{9} \\ 1 \end{array} \quad \begin{array}{r} (6) \quad 102 \\ 3 \overline{) 306} \\ \underline{3} \\ 0 \\ \underline{0} \\ 06 \\ \underline{6} \\ 0 \end{array}$$

- Develop checking by multiplication.

XIII. FRACTIONS AND MIXED NUMBERS

- Continue use of whole, halves, fourths, and thirds.
- Develop an understanding and use of eighths and sixteenths.
- Develop an understanding of meaning of fractions as applied to one thing or a group of things.

Examples:

- $\frac{1}{4}$ of a pie—a fraction of one thing
- $\frac{1}{4}$ of a dozen—a fraction of a group of things

- Teach addition and subtraction of like fractions.

Examples:

$$\begin{array}{r} (1) \quad \frac{1}{4} \\ + \frac{1}{4} \text{ or } \frac{1}{4} + \frac{1}{4} = \frac{2}{4} \end{array} \quad \begin{array}{r} (2) \quad \frac{5}{8} \\ - \frac{3}{8} \text{ or } \frac{5}{8} - \frac{3}{8} = \frac{2}{8} \end{array}$$

- Teach checking of addition by adding in reverse order.

XI MULTIPLICATION OF WHOLE NUMBERS

- Review, reteach, if necessary, and continue drill for maintenance purposes and for speed and accuracy on work of previous levels.
- Develop all multiplication combinations through 9×12 .
- Develop understanding of the process and practice multiplying by one- and two-digit multipliers.
- Develop understanding of the process and practice multiplying with an ending zero in multiplicand and zero in multiplier.

Examples:

$$\begin{array}{r} (1) \quad 40 \\ \times 26 \\ \hline \end{array} \quad \begin{array}{r} (2) \quad 26 \\ \times 40 \\ \hline \end{array}$$

- Develop understanding of multiplication as a short method of addition.
- Practice in multiplication of money with emphasis on placement of cent sign, dollar sign, and decimal point.
- Emphasize checking for accuracy.

XII. DIVISION OF WHOLE NUMBERS

- Review, reteach, if necessary, and continue drill for maintenance purposes and for speed and accuracy on work of previous levels.
- Develop combinations through dividing by 9.
- Develop an understanding of division as a short method of subtraction.

6. Teach checking subtraction by the additive method.

XIV. DECIMALS AND PERCENTAGE

1. Emphasize proper placement of dollar sign, cent sign, and decimal point in money uses only.
2. Stress necessity of keeping figures in proper columns in adding, subtracting, multiplying, and dividing money.

XV. GRAPHS AND SCALE DRAWINGS

1. Practice making and using simple scale drawings.
2. Develop understanding of scale in use of maps.
3. Develop ability to make simple picture graphs and read them.
4. Develop ability to make and read circle, bar, and line graphs.

The Fifth Year in the Intermediate Division

(This is the second year of the intermediate school years)

See introductory section on pages 318-319.

Consult chart on pages 300-303 to get the organization by headings and to understand the continuity of the whole plan.

I. SOCIAL USES

This section is developed on pages 319-325.

II. VOCABULARY—(See page 318)

abacus	million
account	mixed number
budgeting	numerator
century	ordinals (fiftieth through hundredth)
charge	pendulum
circumference	proper fraction
common fraction	receipts
compass	rectangle
decade	reduction (fractions)
decimal	reduction (price)
decimal point	sales slip
denominator	second (time)
higher terms	tenths
hundredths	ten
improper fraction	whole number
lowest terms	

III. PROBLEM SOLVING

1. Practice in estimating answers.
2. Make wide use of thought problems without numbers.
3. Develop the ability to understand and solve more complex problems including problems with hidden question.
4. Refer to pages 319-325.

IV. MONEY

1. Review, reteach, if necessary, all processes with money introduced to date stressing proper placement of \$ sign and decimal point.
2. Continue development of understanding of making change as suggested in the outline for the previous year.
3. Develop the understanding of the division of money through dollars and cents in both divisor and dividend.

$$.25 \overline{) \$1.25}$$

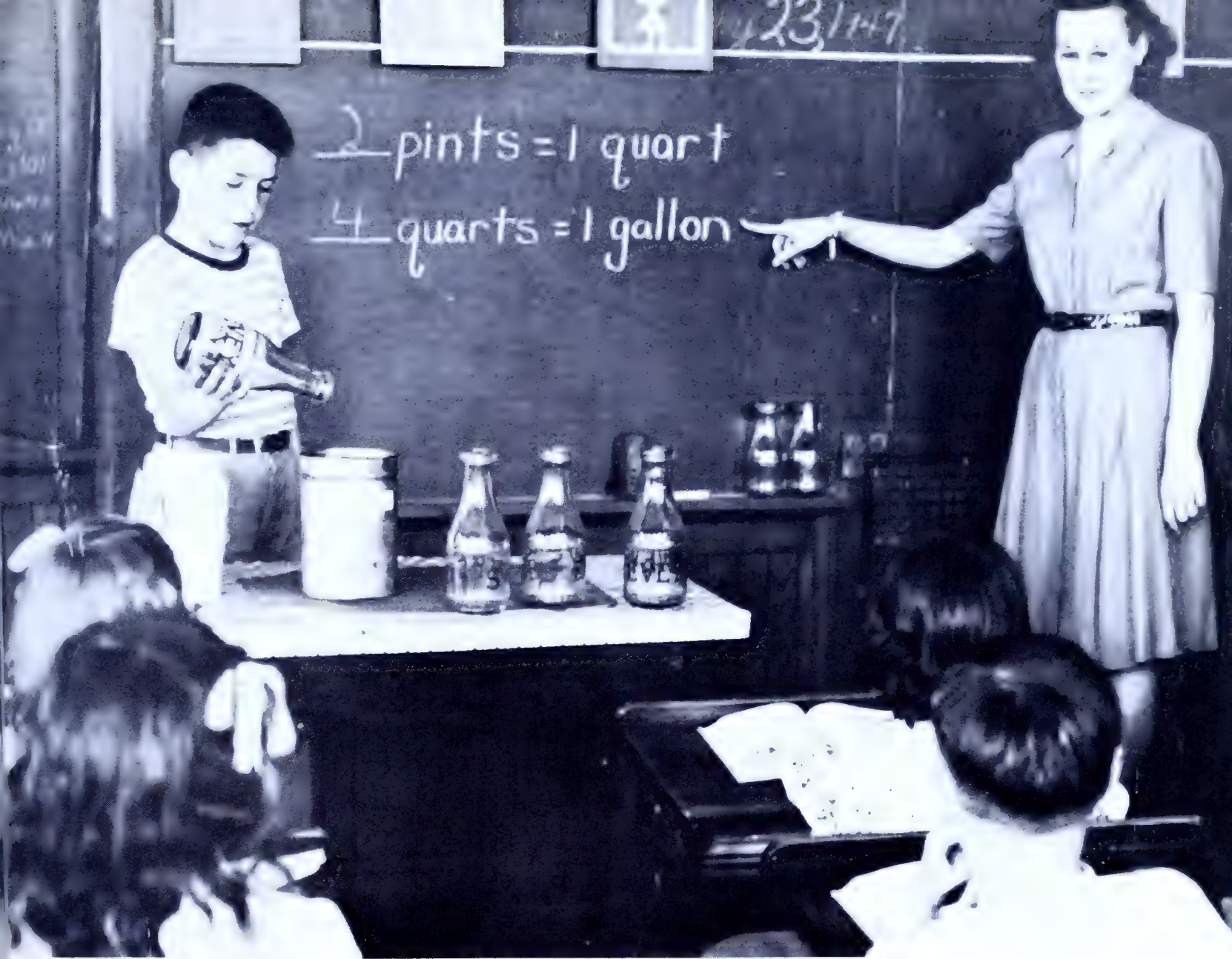
4. Take full advantage of the many situations which arise involving buying and selling.
5. Refer to pages 319-325.

V. TIME

1. Develop an understanding of the relationship of days, weeks, months, years, and centuries to one another.
2. Develop an understanding of the terms A.D. and B.C., for example the concepts that the years 1-99 B.C. and 1-99 A.D. were the *first* century before Christ's birth and the *first* century after Christ's birth, respectively; 100-199 A.D. or B.C. the second century after or before Christ's birth, respectively; the years 100 B.C. and 100 A.D. are two hundred years apart.
3. Develop the ability to tell time to the second.
4. Develop the ability to read and understand schedules and time tables.
5. Refer to pages 319-325.

VI. WEIGHTS AND MEASURES

1. Review, reteach, if necessary, and drill on work of previous levels, for further understanding and wider use.
2. Develop further the ability to estimate heights, widths, lengths, weights, and capacity.
3. Develop the ability to add and subtract denominate numbers. Let this section be tied into



Introducing Tables of Measure

your own community as closely as possible. The denominate numbers in common use in various parts of Pennsylvania vary widely. The farming communities will use such measures as acres, rods, bushels, hundredweight, etc., meaningfully; mining communities, railroad cities, manufacturing cities, all have some measures of particular meaning to them which should be used, perhaps in a rather detailed way. There is, of course, a core of common material which all districts use, as does the whole nation. A practical approach would be to keep a record with the children, for several weeks prior to the presentation of this as a new step in arithmetic, of all the measures they or their parents have used at home and at school or with which they are familiar as a community. (Sq. yds. of linoleum, pints of milk, 4 oz. of candy from the 5 & 10, 4'6" tall, tons of coal, sold by the gross, and so on.)

$$\begin{array}{r} 2 \text{ ft. } 3 \text{ in.} \\ +1 \text{ ft. } 2 \text{ in.} \\ \hline \end{array} \qquad \begin{array}{r} 3 \text{ ft. } 6 \text{ in.} \\ -1 \text{ ft. } 3 \text{ in.} \\ \hline \end{array}$$

4. Develop an appreciation of time as applied to music.
5. Refer to pages 319-325.

VII. GEOMETRIC FIGURES

1. Develop further an appreciation of geometric form as seen in the world about us.
2. Develop an understanding of common angles.
Example: A pie wedge is an acute angle; a goal post is set at right angles to the playing field; any part of a pie-graph which is more than one quarter, is an obtuse angle.

VIII. COUNTING, READING, AND WRITING NUMBERS

1. Develop place value in our number system from ones through one million with emphasis on our system of tens (decades) and the zero as a place holder.
2. Develop ordinals, including word forms, through one hundredth (100th).

3. Develop the correct procedure in reading and writing Roman numerals, through 100; present-day uses of them.

IX. ADDITION OF WHOLE NUMBERS

1. Review, reteach, if necessary, and drill on work of previous levels for speed and accuracy and for maintenance of skill.
2. Develop addition up to 5 addends of 5 digits.
3. Practice checking by adding in reverse order.

X. SUBTRACTION OF WHOLE NUMBERS

1. Review, reteach, if necessary, and drill on work of previous levels for speed and accuracy, and for maintenance of skills.
2. Develop subtraction through 6 digit minuends and 6 digit subtrahends, including zero difficulties.

Examples:

$$\begin{array}{r} (1) \quad 6894 \\ -1283 \\ \hline \end{array} \quad \begin{array}{r} (2) \quad 9064 \\ -5083 \\ \hline \end{array} \quad \begin{array}{r} (3) \quad 430 \\ -380 \\ \hline \end{array}$$

$$\begin{array}{r} (4) \quad \$9.74 \\ -8.95 \\ \hline \end{array} \quad \begin{array}{r} (5) \quad \$50.00 \\ -17.63 \\ \hline \end{array}$$

3. Teach checking subtraction by the addition method.

Examples:

$$\begin{array}{r} 326 \\ -139 \\ \hline 187+ \\ \hline 326 \end{array}$$

XI. MULTIPLICATION OF WHOLE NUMBERS

1. Review, reteach, if necessary, and drill on work of previous levels for speed and accuracy, and maintenance of skills.
2. Develop understanding and practice multiplying 1, 2, and 3 digit multiples including zero difficulties.

Examples:

$$\begin{array}{r} (1) \quad 420 \\ \times 121 \\ \hline \end{array} \quad \begin{array}{r} (2) \quad 402 \\ \times 121 \\ \hline \end{array} \quad \begin{array}{r} (3) \quad 426 \\ \times 130 \\ \hline \end{array} \quad \begin{array}{r} (4) \quad 426 \\ \times 103 \\ \hline \end{array}$$

3. Teach multiplication using dollars and cents.
4. Emphasize checking for accuracy.

XII. DIVISION OF WHOLE NUMBERS

1. Review, reteach, if necessary, and drill on work of previous levels for speed and accuracy, and maintenance of skills.

2. Develop through two-digit divisor, all difficulties.

a. Develop through all difficulties without remainders:

$$\begin{array}{r} 4 \qquad \qquad 4 \qquad \qquad 6 \\ (1) \ 12) \overline{48} \quad (2) \ 32) \overline{128} \quad (3) \ 32) \overline{192} \\ \underline{48} \qquad \qquad \underline{128} \qquad \qquad \underline{192} \end{array}$$

$$\begin{array}{r} 34 \qquad \qquad 36 \qquad \qquad 716 \\ (4) \ 11) \overline{374} \quad (5) \ 42) \overline{1512} \quad (6) \ 21) \overline{15036} \\ \underline{33} \qquad \qquad \underline{126} \qquad \qquad \underline{147} \\ \underline{44} \qquad \qquad \underline{252} \qquad \qquad \underline{33} \\ \underline{44} \qquad \qquad \underline{252} \qquad \qquad \underline{21} \\ \qquad \qquad \qquad \underline{126} \\ \qquad \qquad \qquad \underline{126} \end{array}$$

$$\begin{array}{r} 210 \qquad \qquad 108 \qquad \qquad 2004 \\ (7) \ 31) \overline{6510} \quad (8) \ 21) \overline{2268} \quad (9) \ 32) \overline{64128} \\ \underline{62} \qquad \qquad \underline{21} \qquad \qquad \underline{64} \\ \underline{31} \qquad \qquad \underline{168} \qquad \qquad \underline{128} \\ \underline{31} \qquad \qquad \underline{168} \qquad \qquad \underline{128} \\ \underline{0} \qquad \qquad \underline{0} \end{array}$$

$$\begin{array}{r} 16 \qquad \qquad 37 \\ (10) \ 40) \overline{640} \quad (11) \ 55) \overline{2035} \\ \underline{40} \qquad \qquad \underline{165} \\ \underline{240} \qquad \qquad \underline{385} \\ \underline{240} \qquad \qquad \underline{385} \end{array}$$

$$\begin{array}{r} 85 \qquad \qquad 62 \\ (12) \ 14) \overline{1190} \quad (13) \ 39) \overline{2418} \\ \underline{112} \qquad \qquad \underline{234} \\ \underline{70} \qquad \qquad \underline{78} \\ \underline{70} \qquad \qquad \underline{78} \end{array}$$

b. Follow the development of the above difficulties with further development using remainders.

3. Develop checking of multiplication throughout 1 and 2 above.

XIII. FRACTIONS AND MIXED NUMBERS

1. Review, reteach, if necessary, and drill on work of previous levels for meaning, speed, accuracy, and maintenance of skills.
2. Continue use of whole, halves, fourths, eighths, sixteenths, and thirds.
3. Encourage the extensive use of objects and drawings to make fractions more understandable.

4. Check addition by adding in reverse order.
5. Check subtraction by the additive method.
6. Develop an understanding of the relative value of fractions leading to reduction to lower terms and changing in higher terms. Use manipulative materials.
7. Develop understanding of addition and subtraction.
 - a. Whole numbers and fractions.

$$\begin{array}{r} 4 \\ + \frac{1}{2} \\ \hline \end{array} \qquad \begin{array}{r} \frac{1}{2} \\ + 4 \\ \hline \end{array} \qquad 4 + \frac{1}{2}$$

- b. Mixed numbers with like fractions.

$$\begin{array}{r} 1\frac{1}{3} \\ + 2\frac{1}{3} \\ \hline \end{array} \qquad \begin{array}{r} 4\frac{3}{4} \\ - 1\frac{1}{4} \\ \hline \end{array} \qquad 3\frac{2}{4} \text{ Reduce to } 3\frac{1}{2}$$

8. Develop an understanding of multiplication. Check multiplication by remultiplying.
 - a. A fraction by a whole number by a fraction. (A half taken 6 times makes 3 wholes); follow understanding with drill exercises using number symbols.

$$6 \times \frac{1}{2} = 3 \qquad \frac{1}{2} \times 6 = 3$$

XIV. DECIMALS AND PERCENTAGE

1. Develop the ability to understand decimals to hundredths through their relationships to money.
2. Develop the understanding of decimal-fraction equivalents, in relation to money.
Example: \$.25 = $\frac{1}{4}$ \$.05 = $\frac{1}{20}$ of a dollar.
3. Develop an understanding of place value as applied to decimals.
4. Insist on checking, as in whole numbers.

XV. GRAPHS AND SCALE DRAWINGS

Further develop the ability to make, read, and interpret graphs and scale drawings. Find practical and current problems in science, world history population graphs, history, geography, current events, Community Chest Drive, and the like. Refer to pages 319-325.

The Sixth Year in the Intermediate Division

This is the last year before most children in Pennsylvania go to Junior High School. It is also, for many, the beginning of adolescence and these factors should influence the alert teacher in making

first choices as to methods, illustrative material, and motivation.

See introductory section on pages 318-319.

Consult chart on pages 300-303 to get the organization by headings and to understand the continuity of the whole plan.

I. SOCIAL USES

This section is developed on pages 319-325.

II. VOCABULARY—(See page 318)

angle	Hindu-Arabic
area	hundred thousandths
billion	invert
cancel	millionths
cancellation	net (wt.)
caret	net price
compute	per cent
cost	protractor
dimensions	sale price
discount	selling price
evaluate	solution
formula	square measure
gross (wt.)	ten thousandths
gross price	thousandths

III. PROBLEM SOLVING

1. Practice in estimating answers.
2. Make wide use of thought problems without use of numbers.
3. Develop the ability to understand and solve more complex problems, including problems with hidden questions.
4. Refer to pages 319-325.

IV. MONEY

1. Continue practice with money as applied to more social situations, stressing proper placement of \$ sign and decimal point.
2. Continue development of understanding of making change as suggested previously in outline.
3. Refer to pages 319-325.

V. TIME

1. Review, reteach, if necessary, and drill on time concepts developed in earlier age levels.
2. Develop the ability to estimate time as applied to social situations.

3. Develop an understanding of variations in time in different time belts. This has been at least partially established as a part of geography in grade five.
4. Refer to pages 319-325.

VI. WEIGHTS AND MEASURES

1. Review, reteach, if necessary, and drill on work of previous levels, including estimating weights and measures, for further understanding and wider social uses.
2. Develop the ability to multiply and divide denominate numbers.

$$\begin{array}{r} (1) \quad 3 \text{ ft. } 7 \text{ in.} \\ \times 3 \\ \hline \end{array} \qquad (2) \quad 3 \overline{) 4 \text{ ft. } 3 \text{ in.}}$$

3. Develop the ability to understand the relationships of weights and measures to one another by comparisons and contrasts.
4. Develop the understanding of square measure as applied to squares and rectangles.

A suggested method for developing the understanding of square measure.

$$\begin{array}{|c|c|c|} \hline & & \\ \hline & & \\ \hline & & \\ \hline \end{array} \qquad \begin{array}{r} 3 \text{ sq. in.} \\ \times 3 \\ \hline 9 \text{ sq. in.} \end{array}$$

Since there are 3 *square* inches in the top row and there are three rows, 3 times the number of *square* inches in a row will give the total number of *square* inches in the square.

5. Refer to pages 319-325.

VII. GEOMETRIC FIGURES

1. Extend development of the ability to find perimeter of squares and rectangles by measurement to finding them by computation.
2. Continue development of an appreciation of geometric form as seen in the world about us.
3. Refer to pages 319-325.

VIII. COUNTING, READING, AND WRITING NUMBERS

1. Review, reteach, if necessary, and drill on number placement as taught in previous levels.
2. Develop place value in our number system through one billion with continued emphasis on our systems of tens (decades) and the zero as a place holder.

3. Develop ordinals, including word forms, through five hundredth (500th).
4. Develop and extend the correct procedure in reading and writing Roman numerals, with emphasis on today's uses.
5. Develop the ability to round off numbers.

IX. ADDITION OF WHOLE NUMBERS

1. Review, reteach, if necessary, and drill on work of previous levels for speed and accuracy, and for maintenance of skills.
2. Extend practice in column addition as needed.

X. SUBTRACTION OF WHOLE NUMBERS

1. Review, reteach, if necessary, and drill on work of previous levels for speed and accuracy, and for maintenance of skills.
2. Extend practice in subtraction as needed.

XI. MULTIPLICATION OF WHOLE NUMBERS

1. Review, reteach, if necessary, and drill on work of previous levels for speed and accuracy, and for maintenance of skills.

XII. DIVISION OF WHOLE NUMBERS

1. Review, reteach, if necessary, and drill on work of previous levels for speed and accuracy, and for maintenance of skills.
2. Continue development of understanding the division of whole numbers, all difficulties, through 3 digit divisors.
3. Developing checking by multiplication.

XIII. FRACTIONS AND MIXED NUMBERS

1. Review, reteach, if necessary, and drill on work of previous levels for meaning, speed, and accuracy, and for maintenance of skills.
2. Develop further understanding and practice in the use of halves, thirds, fourths, eighths, sixteenths, twelfths, fifths, and tenths, and extend as the need arises.
3. Develop an understanding of addition and subtraction of mixed numbers with unlike fractions.
4. Develop understanding of multiplication of mixed numbers, including cancellation.

5. Develop understanding of all steps in division of fractions and mixed numbers.

$$\begin{array}{ll} (1) & 4 \div \frac{1}{2} \\ (2) & \frac{1}{2} \div \frac{1}{2} \\ (3) & \frac{1}{2} \div 2 \\ (4) & 3 \div 1\frac{1}{2} \end{array} \quad \begin{array}{ll} (5) & 1\frac{1}{2} \div 2 \\ (6) & 1\frac{1}{2} \div \frac{1}{2} \\ (7) & \frac{3}{4} \div 1\frac{1}{4} \\ (8) & 2\frac{1}{2} \div 1\frac{1}{4} \end{array}$$

6. Check division by multiplication.

XIV. DECIMALS AND PERCENTAGE

1. Develop the ability to understand, read, and write decimals to millionths and with emphasis on place value.
2. Develop an understanding of decimal-fraction equivalents: $\frac{1}{2}, \frac{1}{3}, \frac{2}{3}, \frac{1}{4}, \frac{3}{4}, \frac{1}{5}, \frac{2}{5}, \frac{3}{5}, \frac{4}{5}, \frac{1}{6}, \frac{5}{6}, \frac{1}{8}, \frac{3}{8}, \frac{5}{8}, \frac{7}{8}, \frac{1}{10},$ and $\frac{1}{25}$ with other numerators as seems necessary to establish understanding, and $\frac{1}{100}$ with its needed multiples.
3. Develop the ability to multiply decimals by 10, 100, and 1000 by moving the decimal point.
4. Develop the ability to multiply decimals.

- (1) Whole number \times decimal

$$\begin{array}{r} 125 \\ \times .13 \\ \hline \end{array}$$

- (2) Decimal \times whole number

$$\begin{array}{r} 4.75 \\ \times 42 \\ \hline \end{array}$$

- (3) Decimal \times decimal

$$\begin{array}{r} 12.5 \\ \times 1.3 \\ \hline \end{array}$$

5. Develop the ability to divide decimals.

- (1) Decimal \div by whole number

$$\begin{array}{r} 5 \overline{) 28.5} \end{array}$$

- (2) Whole number \div by decimal

$$\begin{array}{r} .5 \overline{) 285} \end{array}$$

- (3) Decimal \div decimal

$$\begin{array}{r} .5 \overline{) 2.85} \end{array}$$

The method of placing the decimal point in the quotient should follow that of the textbook series in use. It is assumed that this question was considered when the text was selected. The important thing is that children understand *why* they point off and what the significance of the point is in relation to number values. If a child has been taught by another system than the one used in the school to which he has been transferred, the teacher should first ascer-

tain whether or not he understands what he is doing and if he does, leave his method alone. If he needs reteaching, it should be done in a way which does not confuse him.

6. Develop the ability to round off decimals.
7. Insist on checking, as in whole numbers.
8. (Optional) Develop the ability to understand decimal-percentage equivalents.

XV. GRAPHS AND SCALE DRAWING

1. Develop further the ability to read, make, and interpret graphs and scale drawings. By the end of this year, children should be able to translate into simple graphs ordinary figures that they use in their other subject matter fields, that they see about sports, products, etc., in the newspapers and periodicals, and those used in the community. They should also be able to interpret graphs in newspapers, magazines, and local drives. The scale of miles on all maps used should be made so meaningful that children can translate the scale into actual distances and be able to draw maps and figures to any reasonable scale.

Illustrations of Unit Activities

AN ILLUSTRATION OF THE NUMBER POSSIBILITIES IN A UNIT ON TIME

TOPICS FOR DISCUSSION

Time as a Factor in the Daily Life of Man

1. Rising on time to avoid undue haste
2. Arriving on time at school, work, appointments
3. Eating meals at regular hours
4. Taking time to fully complete tasks
5. Planning work, timing play, games, etc.
6. Noting timed responses to signals and directions
7. Reading and using schedules
8. Assuming social responsibility for punctuality
9. Controlling speed of movement
10. Observing rhythms for music and dancing
11. Reading timetables
12. Noting mailbox collections
13. Locating radio programs
14. Observing proper tense forms when speaking or writing

15. Reading time from watches, clocks, and sundials
16. Using the calendar
17. Noting length of time for proper cooking of food
18. Making computation about time in various situations

Time as a Factor in the Physical World

1. Studying effect of movements of sun
2. Studying effect of movements of earth on axis and around sun (day and night—seasons)
3. Studying the changes of the moon
4. Studying changing positions of stars
5. Learning what Indians called “a moon”
6. Learning how time affects erosion
7. Learning how time affects maturation of seeds and animals
8. Studying the time for rising of sap
9. Learning effect of time on length and direction of shadows
10. Noting proper time for bird migrations
11. Noting proper time for animal hibernation
12. Explaining “midnight sun”
13. Explaining time expressed as distance from earth to planets, stars, suns, etc.
14. Explaining how sound travels
15. Explaining the development of living organisms from simple to complex forms
16. Explaining how invention of planes measures distance in hours instead of miles. Learning hour distances between important world points.

Time as a Basic Factor of Evolution

A long range view of the development of any subject of particular interest to the group, or of something being studied in history will help give this concept. Necessary readings may be done during reading periods, or they may be a number of individual readings put together in group discussions, or this may be a related part of a current unit in the Social Living area. This type of activity should not be seen as additional unrelated work. Use time lines or drawings or some other device as a teaching medium. Examples: Lights from cave fire to incandescent lamp. Travel from packs to airplanes.

Telling Time Around the World

1. Maps of U. S. showing time belts
2. Maps showing global time belts

3. What is meant by standard, daylight, and war time
4. How time is represented on a sundial
5. How time is announced on the radio from Europe to U. S.
6. The physical causes which produce day and night
7. What is meant by “midnight sun”
8. In what degree peoples of the earth depend on mechanical timepieces
9. In what part of earth sun is visible at midnight
10. Persons whose activities are closely related to the element of time
11. How the navy tells time
12. Meaning of the “prime meridian”
13. Location and importance of International Date Line

ACTIVITIES

Construction

1. Drawing pictures of world-famed clocks
2. Illustrating parts of watch mechanism
3. Making shadow clocks
4. Making musical instruments on which to demonstrate rhythms
5. Making calendars
6. Making maps to show time belts
7. Marking length of shadows at different times of day
8. Demonstrating how day and night come, with globes and candles
9. Drawing signs of zodiac
10. Making properties and furniture for original play, “Then and Now”

Appreciation

1. Listening to record, “In a Clock Store”
2. Reading stories, poems, articles about clocks or time
3. Dramatizing poems and stories about clocks or time
4. Singing songs about clocks and time
5. Studying pictures showing costumes through the ages
6. Studying pictures showing evolution of the book
7. Studying pictures showing historical development of architecture
8. Seeing films recording structure of prehistoric beasts

9. Listening to records demonstrating march time, waltz time, etc.
10. Practicing dancing — waltz, mazurka, etc.

Excursions — Use of Community Resources

1. To see a sundial
2. To museum to see clocks and watches
3. To railway depot to see large clock
4. To Historical Society to see old grandfather clocks of the community
5. To branch library for books and magazines
6. To railroad terminal for schedules
7. To local radio station to note close timing of programs

Activities to Develop Specific Skills

1. Using new terms and words to enlarge vocabulary
2. Developing ability to spell new words learned
3. Developing ability to locate material in reference books
4. Developing ability to organize and classify material when located
5. Telling time accurately
6. Reading longitude on a map
7. Reading timetables and schedules
8. Making schedules
9. Solving arithmetic problems based on time measure
10. Developing ability to read informational material with definite purpose in view
11. Developing technique for purposeful listening
12. Using oral and written language skills
13. Using number and computational skills in various situations
14. Extending old interests in science and nature study and stimulating interests for further research

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A GROCERY STORE FOR INTERMEDIATE GRADES IS ESSENTIALLY CONSUMER EDUCATION

LOCATION OF STORE

Unused floor space in a building may be used for a fairly permanent "storeroom" which may be used during the year by several grades for any type of activity as a grocery store, a toy store, or a general store.

If no such space is available a corner of the classroom may be used temporarily with movable counters and shelves.

STOCKING THE STORE

Model stores can be obtained free of cost, but good judgment should be exercised in using this method; you might create a problem in your school.

Children bringing clean cans and cartons that have been opened carefully may be a better method.

Stocks should be renewed as in real stores, involving ideas of supply and demand.

POSSIBLE ACTIVITIES AND LEARNINGS

Measure and Compute Sizes

1. Measure the lumber, length, width.
2. Study thickness in relation to the size of the nails to be used to prevent splitting.
3. Consider height of the shelves. Judge the height of the top shelf correctly for safety.
4. Plan depth of shelves in relation to their uses.
5. Plan areas of display, counter space, proper height and width, and working space.
6. Plan counter, display cases, and storage space.
 - a. Plan bins that are functional, contents computed by measuring.
 - b. Baskets or crates
 - Bushel: weight
 - Half bushel: weight
 - Peck: weight
 - $\frac{1}{2}$ peck: weight
 - $\frac{1}{4}$ peck: weight
 - Carriers: weight
 - Strawberry box: weight

Paint and Decorate the Store

1. Compute the amount of paint.
2. Figure the cost of the paint.
3. Plan size of the brushes.
4. Paint with the grain with even strokes.
5. Thin the paint if necessary.
6. Cover the paint can when not in use.
7. Sand well.
8. Clean brushes after each usage.

Use Denominate Numbers

1. Buying from the farmer — a chart.

Article	Container	Dry Measure	Weight
Potatoes	Burlap Bag	Bushel	60 lb.
Potatoes	Basket	$\frac{1}{2}$ Bushel	30 lb.
Potatoes	Basket	1 Peck	15 lb.
Potatoes	Basket	$\frac{1}{2}$ Peck	$7\frac{1}{2}$ lb.
Potatoes	Basket	$\frac{1}{4}$ Peck	$3\frac{3}{4}$ lb.

2. Selling the farmer's potatoes at the school store — a chart.

Article	Price	Amount	Cost
Potatoes	4 lb. for 25¢	2 lb.	13¢
Potatoes	85¢ a peck	$\frac{1}{2}$ bu.	\$1.70

3. List foods sold by dry measures.
 - a. Bushel
 - b. Peck, $\frac{1}{2}$ pk., $\frac{1}{4}$ pk.
 - c. Quart
4. List foods sold by the pound, fractional parts of a pound, $\frac{1}{4}$, $\frac{1}{2}$, $\frac{3}{4}$.
5. List foods sold by the ounce.
6. Read the content labels on cans, packages.
7. Recognize the number of can and the contents by the number.
8. The slow learner may not recognize the size by number and content. Use the vocabulary *large can*, *small can*, and *medium can*.
9. List foods sold by the dozen and fractional parts, $\frac{1}{6}$, $\frac{1}{3}$, $\frac{1}{4}$, $\frac{1}{2}$.
10. Fractional dozen chart.

Article	Price per Dozen	Amount	Fractional Part	Total Cost
Temple oranges	90¢	2	$\frac{1}{6}$	15¢
"	"	3	$\frac{1}{4}$	23¢
"	"	4	$\frac{1}{3}$	30¢
Eggs	65¢	3	$\frac{1}{4}$	17¢
"	"	4	$\frac{1}{3}$	22¢

11. List foods sold by the bunch.

12. Learn meaning of net weight.

13. Teach size of the tin cans so that "delivery boys" know the contents by the number of the can.

Visual aid chart should be displayed in the store.

Contents of Canned Fruits and Vegetables Chart

No. 1 can	$1\frac{1}{3}$ cups
No. 2 can	$2\frac{1}{2}$ cups
No. $2\frac{1}{2}$ can	$3\frac{1}{2}$ cups
No. 3 can	4 cups

Many cans are labeled in a confusing manner. It would be an interesting assignment for accelerated students to read and compute the contents in simple meaningful language; visit the grocer to get the correct information and draw a pictograph to a scale for size and contents.

Use Money Relationships

1. Develop the concept of the fractional cent: buyer pays the full cent.
2. Develop the thrift concept: It is cheaper to buy nonperishable goods in quantities.
3. Play challenging games to learn making change.
4. Place numbers on desks to serve as house numbers and have the slow learners deliver orders. They must be able to make change to deliver or they lose their jobs as in actual life.
5. The cash register must check with the total sales as in actual life.

Develop Location Concepts

1. Top shelf.
2. Bottom shelf.
3. Second shelf.
4. Shelf to your right.
5. Bin to your left.
6. Above the cereal shelf.
7. Below the soup shelf, etc.
8. Between the fruit and vegetable cans.
9. The oblong package on the third shelf.
10. At the end of the third shelf to your left.
11. In the center of the middle shelf.
12. The first bin to the right of the center bin.

Develop Form Concepts

1. Square package.
2. Rectangular and oblong packages.
 - a. Vary the slow learner's directions by addin

- the color of the packages or the oatmeal, soap, or prune box of the same shape, etc.
- b. Vary the fast learner's directions by adding the brand, grade of contents and the quality and quantity.
3. Lengthwise or lengthways.
4. Upright.
 - a. Slow learner, stand the package up *tall*.
 - b. Fast learner will delight in using big words, such as *perpendicular*, *vertical*, *horizontal*. The word *parallel* is a grownup's word.
5. Circle.

Develop Concepts of Fractional Parts

1. Teach $\frac{1}{2}$, $\frac{1}{4}$, $\frac{3}{4}$, and $\frac{1}{5}$ by money.
2. Teach $\frac{1}{3}$, $\frac{1}{4}$, $\frac{1}{5}$ as fractional parts of a dozen.
3. Teach tenths, etc., through use of money.

Buy, Using Practical Situations

1. Buy 2 articles that cost less than \$1.
2. Buy 5 articles at a cost of less than \$5.
3. Buy for a family of 3.
4. Buy for a family of 5.
5. Buy for a school party.
6. Plan and buy the food for a tea for the school, mothers, and teachers.
7. Plan and buy the food for an outdoor cook-out or a camp for 1 week.

Selling Experiences That Are Real

1. Use the cash register.
2. Compute accurate totals.
3. Read grocery lists.
4. Make change.
5. Use courtesy to buyers.
6. Learn about health certificates for food handlers.
 - a. Where to secure certificates.
 - b. How often one is required.
7. Open and close the store on time.
8. Keep the store clean, safe, and appealing to the customer.
9. Prepare advertisements for newspapers.
10. Receive telephone orders, quote prices, state time of deliveries so that the buyer is home in order that groceries may be left in a safe, clean place.

Make Visits to Secure First-Hand Material

1. Make distance graphs on all trips.

2. Study food processing.
 - a. Quick freeze
 - Temperature
 - Time
 - Storage after quick freeze, with temperatures and time limits.
 - b. Cannery
 - Cleaning vegetables
 - Blanching to preserve color with time elements involved
 - Sealing of cans
 - Amount of pressure (steam)
 - Time of processing
 - Cost per can at school cannery
 - Labeling the food cans.
3. Visit an orchard to study:
 - a. Picking the fruit
 - b. Grading
 - c. Storage
 - d. Shipping
4. Send a committee to visit a grocer.
 - a. Report on scales
 - b. Report on refrigeration
 - c. Number of clerks, duties, manners, skills needed, etc.
5. Appoint committees to survey your community.
 - a. Report on number of stores
 - b. Report on location of stores
6. Visit milk plant to study
 - a. Pasteurizing, homogenizing
 - b. Sterilizing the bottles
 - c. Filling and capping
 - d. Temperatures during pasteurizing and homogenizing, cooling, and storing

IV. CORRELATIONS

Art

1. Artistic arrangement
2. Lettering signs, spacing
3. Window dressing

English

1. Practice in telephoning orders using toy telephones or constructed telephones
2. Write letters for samples
3. Write advertisements
4. Write price tags in good form

Safety

1. Place bins, boxes, or cartons to prevent accidents
2. Get goods from high shelves in safety
3. Keep a clean, dry floor for safety

Reading

1. Study newspaper advertisements on bargain days, comparing prices
2. Read each other's bills and lists
3. Read labels
4. Insist that labels are read intelligently before they are put into a scrapbook

Science

1. Study the position of the sun, time of the sun striking the display areas in the store
2. Consider the effect of the hot sun through glass upon perishable foods, and plan accordingly
3. Learn about effective use of deodorants, exterminators

Social Studies

1. Study countries in which articles grow
 - a. Accelerated students can make product maps, graphs, and charts
 - b. The slowest learner of your group can color the maps, graphs, and charts, and pictures or models of products
2. Study climates of the countries
3. Study transportation of the products, by rail, truck, plane, boat
4. Study legal requirements
 - a. Mercantile license
 - How is the cost computed?
 - Where do you secure one?
 - Must it be displayed?
 - How often is it renewed?
 - What is the date of the merchants' report of the volume of business?

b. Merchants' scales

Who checks the scales?

How does he approve the scales?

How often does the official check weights and measures?

How can the buyer tell that the scales are true?

5. Study the growth and transportation of
 - a. Grains and their by-products
 - b. Fruits—tropical and local
 - c. Vegetables

Spelling

Spell the words used daily in store activities.

Thrift

1. Compare prices by the piece, by the dozen, by the case.
2. Consider the quality of the produce in relation to the price. It is poor economy to buy an inferior product because it is cheap.
3. Consider quantity buying to save time, money, and worry.

Handwriting

Let the children read each other's bills and grocery lists. This will bring the writing more nearly up to a legible standard.

Health

1. Learn about purity and cleanness of food
 - a. Covered foods
 - b. Dogs and cats
 - c. Bugs and rodents
2. Study foods and quantities required for good health
3. Use ladles and forks in handling certain foods
4. Charts of energy requirements, calorie charts, and charts of the seven basic foods are useful. They may be available through the school nurse, home economics teacher, or they may be in the health textbook.

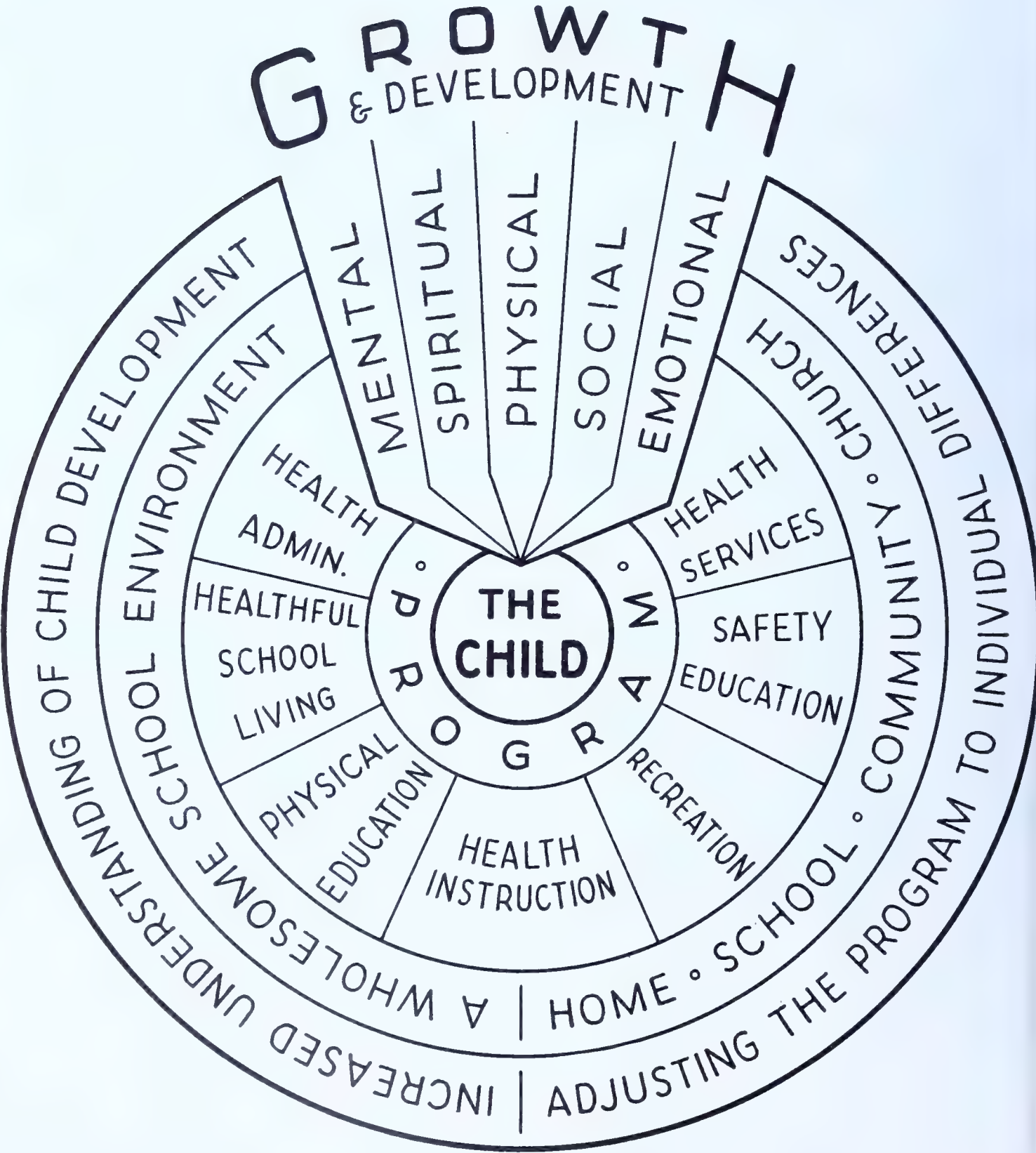
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NOTES FOR 233-C

OUR AIM

EDUCATION THROUGH THE PHYSICAL



CHAPTER VI

Health, Physical Education, Recreation, and Safety Education

ADMINISTRATIVE RESPONSIBILITIES

A HEALTH, physical education, recreation, and safety program can be no better than that desired by the people of the community, and the desire of the people will be no greater than the administrative leadership provided. The quality of that leadership will be only as effective as the democratic principles underlying the administrative policies.

The administrative policies must give due consideration to the pupil needs, faculty understanding, and community participation. For widespread community participation, the administrator will have to evidence a keen interest and provide leadership in the implementation of the entire program. Courses of study will not suffice, classroom teaching will be inadequate, and supervision will be ineffective unless the administrator leads the way, and points up the need for a comprehensive health, physical education, recreation, and safety education program. If the desired goals are to be attained, the keynote of the over-all program is the administrator, even though much delegation of authority will be necessary.

The committee firmly believes that the following necessary revision must be incorporated into an on-going program.

In Health Instruction

1. Provide a healthful classroom situation in which to teach.
2. Provide 60 to 80 minutes a week for health instruction in Grades 1-6, inclusive.
3. Provide up-to-date visual aids, text, references, and other instructional material in adequate amounts.
4. Coordinate the health instruction with other phases of the curriculum.
5. Develop a feeling of responsibility for the health of children on the part of all school personnel.

In Physical Education

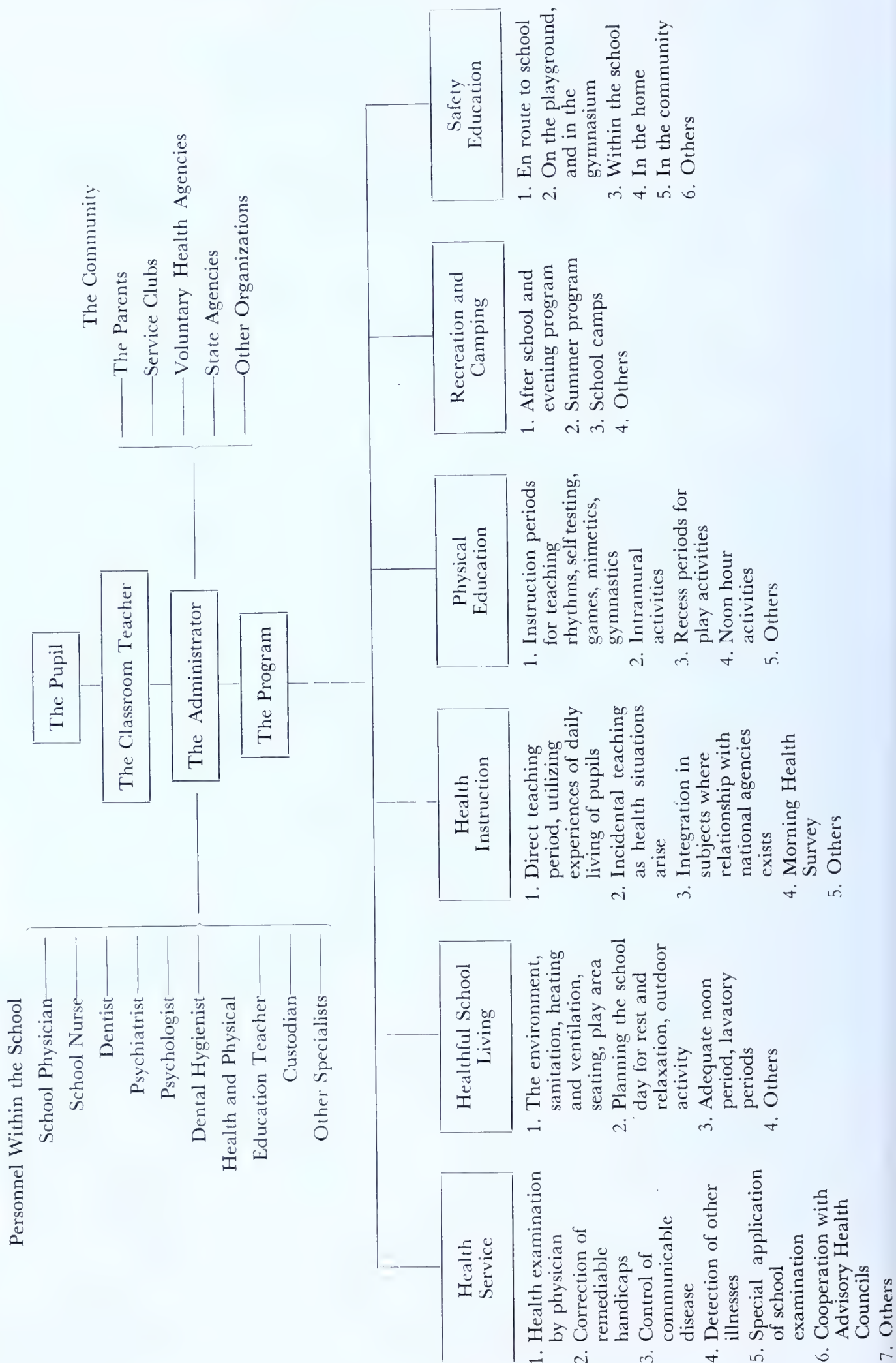
1. Provide 45 minutes daily for definite, progressive instruction in physical education, Grades 1-6.
2. Provide morning and afternoon recess periods in Grades 1-6, inclusive.
3. Provide adequate and healthful facilities for the indoor and outdoor program.
4. Provide essential equipment and supplies.
5. Provide trained leadership.

The Facts in the Case

World War I revealed, on the national level, the inadequacies of our health, physical education, recreation, and safety education programs.

THE HEALTH, PHYSICAL EDUCATION, RECREATION, AND SAFETY EDUCATION PROGRAM

This chart is designed to show the interrelationships of the pupil, personnel, and the program, rather than lines of authority



In 1918, health was placed first on the list of the seven cardinal principles of secondary education. The same could have been done for elementary education, since World War II revealed, on the national level, similar results by the number of rejections among eighteen-year-old boys.

To appreciate the problem fully, we must realize in peace time as in war, that the true strength of our nation is our youth—the greatest undeveloped natural resource we possess.

The approach toward an adequate solution will have to come through community participation in

A complete health service program
Adequate, healthful, school living conditions
Functional health instruction
A well-planned physical education program
Creative recreational and camping facilities
Safety education in all of its ramifications

The full realization of a strong nation will be approached only when the public looks upon adequate health, physical education, recreation, and safety programs as the means of developing our full, potential, national well-being. Again, the key person is the school administrator.

Section 1607 of the *1947 Pennsylvania School Laws* states: "In every elementary public and private school established and maintained in this Commonwealth the following subjects shall be taught in the English language and from English texts . . . safety education, health, including physical training, and physiology. . . ."

Section 1608 states: "The board of school directors in every school district in this Commonwealth, with the advice, assistance, and approval of the proper superintendent of schools, shall arrange a course or courses of study adapted to the age, development, and needs of the pupils."

Section 1609 states: "Physiology and hygiene, which shall in each division of the subject so pursued include special reference to the effect of alcoholic drinks, stimulants, and narcotics upon the human system, and which shall also include special reference to tuberculosis and its prevention, shall be introduced and studied as a regular branch by all pupils in all departments of the public schools of this Commonwealth, and in all educational institutions supported wholly or in part by money from this Commonwealth. . . ."

Administrative Responsibilities with Respect to Health, Physical Education, Recreation, and Safety Education

In the interval between the publication of this bulletin (233-B) and the issuance of the final revised curriculum for Elementary Education (233-C), each administrator is urged to consider, in cooperation with his pupils, teachers, specialists, and individuals in the community, the responsibilities of evolving an adequate program in Health, Physical Education, Recreation, and Safety Education.

A single curriculum cannot meet the needs of all schools; therefore recommendations on further revision will be appreciated by the committee in order that the flexibility of 233-C may be as great as possible.

The following list of administrative responsibilities is presented:

I. HEALTH SERVICE

1. Interpret and develop awareness on the part of the teacher of her relationship to the Health Service Program.
2. Appoint advisory health councils in cooperation with medical director, local school authorities, and service groups.
These provisions are mandatory: (Act 426, June 1, 1945, P. L. 1222)
3. Coordinate the activities of child welfare agencies and other groups.
Tuberculosis, Infantile Paralysis, Crippled Children, and similar groups.
4. Assist in the selection of physicians, dentists, nurses, and other personnel.
5. Assist in the establishment of a program for the follow-up of remediable defects.
Home visitation by nurses
Consultation with classroom teacher when instructional program of child is affected.
6. Provide the necessary space, time, funds, materials, and services for the health examinations.
Transportation
Health room and equipment
Medical supplies
7. Establish a public relations program with respect to health service.
Parent education detailing philosophy of program
Establishment of school inspection program with State sanatoriums

9. Set up an immunization program.
Coordination of State and local authorities
10. Establish preschool child clinics.
Consider local sponsoring agencies, special education advisers, and medical authorities
11. Assist in the coordination of State, voluntary, and school health services.

II. HEALTHFUL SCHOOL LIVING

1. Securing adequate physical plant facilities
 - Adequate building
 - Safe, efficient heating
 - Proper lighting
 - Adequate ventilation
 - Sanitation
 - Adjustable seats
 - Adequate play areas and safe apparatus
2. Responsibility for planning the daily program
 - Time for rest and relaxation
 - Time for outdoor activity
 - Adequate noon period and proper type of recreation with elimination of intramural contests
 - Length of school day
 - Proper supervision of play, rest, and recreation periods
 - School lunch (length of time)
 - Length of class periods
 - Policies with respect to home safety
 - Policies with respect to evening school functions and activities during the school week
 - Mental health aspects of child:
 - a. Policies regarding attendance
 - b. Grading and promoting system to minimize mental strain
 - c. Policies regarding discipline to minimize mental strain
 - d. Policies with respect to making up work
 - e. Policies regarding confidential information—i.e., results of tests, medical examinations, etc.
3. Health of teacher
 - Providing for physical examination of teacher
 - Moderate schedule
 - Development of proper mental health aspects of supervision
 - Provision for teachers' rooms and periods of relaxation
 - Development of program for efficient teacher-parent conferences

III. HEALTH INSTRUCTION

1. Appreciates and encourages the efforts of the instructional and service personnel toward the improvement of child health
2. Develops with the instructional staff and service personnel the following concepts:
 - Health instruction should permeate the entire curriculum since the whole school program affects the health of the child.
 - Health instruction seeks to develop those health practices which are desirable for the child, home, school, and community.
 - Each teacher has a contribution to make to the health instruction program.
3. Provides adequate facilities and equipment
 - Provides classroom designed and equipped for health instruction
 - Provides adequate and modern texts and reference material
 - Makes available necessary visual aids
 - Provides for sufficient play areas properly equipped
4. Sets aside sufficient time for
 - Directing instructional program
 - Emphasizing the necessity for integration of health instruction with all other school subjects and activities
 - Developing in his teachers the responsibility for widespread incidental teaching of health
5. Makes provision for carrying health instruction beyond the classroom by
 - Developing a cooperative attitude between the home, the school, and the community
 - Providing the leadership necessary for a school, home, and community cooperative study of health problems.
6. Other

IV. PHYSICAL EDUCATION

1. Rural areas—In spite of inadequate facilities and lack of trained personnel in many rural areas, much can be done to provide worthwhile pupil experiences in physical education.
 - Making use of facilities and environment in rural areas*
 - a. Using movable desks in the one-room school so that indoor space is available
 - b. Taking advantage of rural environment
 - Hiking
 - Swimming
 - Winter activities

- c. Improvement and enlargement, if necessary, of present playground facilities
 - Grading
 - Drainage
 - Laying out of specific areas for different activities
 - Utilization of local materials for playground equipment—sand boxes, seesaws, swings, other materials
 - Securing sufficient game equipment
- d. Cooperating agencies
 - PTA's, Service Clubs, Scouts, etc.
- e. Application of extension education for out-of-school activities (Act 141 of the 1947 General Assembly).

- 2. Urban areas—The following should be considered for the urban physical education program:

Provision for adequate personnel, facilities, and equipment indoors

- Personnel, Facilities, and Equipment for play rooms, gymnasiums, and swimming pools.
- Proper heating, lighting, and ventilation
- Adequate storage facilities
- Adequate janitorial services
- Safe and adequate apparatus
- Trained personnel for teaching, coaching, and supervision
- Modern and sufficient instructional material
- Swimming pools
- Personal supplies—soap, towels, swimming suits, etc.
- Cooperation with respect to safety

Provision for adequate personnel, facilities, and equipment outdoors

- Playgrounds and swimming pools
 - Trained personnel for teaching and supervision
- Provision for maintenance of facilities
- Equipment, apparatus, and supplies
- Storage facilities
- Cooperation with respect to safe playground practices

Provision of adequate time for

- Regularly scheduled physical education classes
- Provision for intramural sports and other physical education activities during after-school hours
- Provision for special physical education activities and clubs
 - May Day programs and similar activities

- Play days for the social development of participants (competition eliminated)
- Host and guest games with adjacent schools
- Clubs, dances, leaders, stunts
- Use of school facilities and participation of pupils in community projects
- Daily recess, rest, lunch, and noon periods
- The use of visual aids
- Individual competency examinations to determine the participation level of the child

V. RECREATION AND CAMPING

1. Recreation

Provide adequate buildings

- Gymnasiums — Classrooms — Facilities for special activities, such as shops

Make available playgrounds, swimming pools, and athletic areas

Secure sufficient equipment and apparatus
Cooperate with community agencies in developing a year-round program

- Seasonal sports and games
- Community club activities
- Hiking groups
- Picnics
- Y programs
- Scouting activities
- Boys' and girls' clubs and other groups
- Other

Secure necessary instructional and supervisory personnel

- Director
- Supervisors
- Instructors
- Specialists
- Voluntary assistants
- Other

Provide for safety measures

- Supplies
- Instructions
- Equipment
- Facilities
- Other

Develop program for preparation of leaders

- Philosophy of recreation as a phase of extension education containing camping as a part of a broad recreation program (Act 141 of the 1947 General Assembly.)
- Special instruction in arts and crafts, games, etc.

Cooperate with community on special projects

Soap box derby
Kite flying
Marble tournaments
Pageants
Model airplane flight tournaments
Folk arts
Other

Secure specialists for demonstration and instruction in related fields

Music
Dramatics
Dancing
Swimming
Other

Provide for development of special interests and talents of participants along vocational lines

Arts and crafts
Hobbies

Provide the leadership for developing a program for all the people of the community

Public relations program through service clubs
Planned tours of program in operation
Demonstrations of program accomplishments

Secure maintenance personnel

Ground-keepers, janitors

2. Camping—A well-rounded camping program includes the suggestions under recreation and, in addition, because it is usually located away from a population center, the following for which the administrator should be responsible:

Safe, adequate, and efficient transportation—securing and preparing wholesome food—adequate housing facilities

Sleeping quarters
Place for laundering

Adequate communication

Mail service
Telephone and telegraph
Bus service

Special personnel

Physicians and nurses
Swimming instructors
Counselors
Dietitian

Development of a broad nature study program

Bird study
Conservation
Fauna and flora study

A camping program for preschool children and persons from underprivileged homes

VI. SAFETY EDUCATION

Safety education has as its major objective the positive teaching of boys and girls how to live in a modern, complex society by utilizing daily experiences which will foster conservation of life in the home, the school, and community. All phases of an educational program are affected. Greater effort must be made to save the lives of boys and girls; thousands are being killed in accidents every year.

1. Home and Farm Safety

Development of a program covering all phases of a child's life

Dangerous age levels
Personal and mechanical causes
Removal of causes
Elimination of hazards
Safety inspections
Fire hazards
Underwriters' laboratory

2. School Safety

Provide adequate, safe, and efficient transportation

Equipment
Routes
Instruction of pupils, parents and public in safe transportation factors
Conduct
Loading and unloading
School bus patrols
Capable drivers
Mental attitudes
Physical condition
Driving ability
Application of traffic rules and regulations
Knowledge of vehicle
First aid training
Cooperation with State and local highway officials

Organization of safety patrols—organization and conducting of fire drills—elimination of hazards in physical education, recreation, and camping

Outdoor Activities

Allocation of play areas according to grade levels

Location of permanent apparatus and equipment
 Safety zoning of areas adjacent to apparatus
 Elimination of overlapping play areas
 Indoor activities
 Provide non-slip floors
 Elimination of projecting hazards
 Guarding against hazards—screening of windows and doors
 Providing proper and safe equipment
 Proper maintenance of building and equipment
 Enforcement of safety rules and regulations
 Physical examination of pupils before and during physical education program
 Providing trained instructional personnel
 Reporting of accidents

Industrial arts and vocational education

Providing adequate space, time, safe tools, equipment, lighting, heating and ventilation
 Instructional program of hand and power tools
 Provision for first aid program, including rest rooms
 Study and analysis of accident reports
 Active participation of pupils in developing safety procedures
 Guarding of movable machinery parts

Physical plant facilities

Determine location of building
 Construction and layout of building
 Operation of building
 Maintenance of building and grounds
 Provision for and upkeep of safe equipment
 Correction of snow hazards
 Periodic inspection of fire alarm system
 Periodic inspections
 Fire escapes and exits
 Fire extinguishers
 Stairs, corridors, and handrails
 Floor surface
 Storage of inflammable materials

Cleanliness and orderliness of building
 Lavatories
 Auditorium
 Gymnasium
 Playgrounds
 Locker rooms and showers
 Shops and equipment
 Cafeteria and equipment
 Homemaking department and equipment
 Swimming pools and bath houses
 Laboratories and equipment
 Classroom
 Boiler room and equipment
 Storage space

3. Community Safety—Cooperation in an over-all community safety program

Pedestrian Problem

Analysis of accident statistics
 Ages, time, and season
 Location—urban, rural
 School children—before, during, and after school hours

Causes of Pedestrian Accidents

Traffic control
 Age
 Visibility
 Mechanical condition of vehicle
 Poor driving practices
 Other

Prevention of Pedestrian Accidents

Teaching of safe practices
 Demonstration of safe practices
 Correct driving practices by parents, teachers, and the general public
 Other means

Public Protection of Children

Playgrounds
 Correct engineering
 Proper law enforcement

Special Safety Problems

Bicycle problems
 Instruction in use
 Registrations
 Inspection

HEALTH SERVICE

Health Service comprises all those procedures designed to determine the health status of the child, to enlist his cooperation in health protection and maintenance, to inform parents of the defects that may be present, to prevent disease, and to correct remediable defects.

Within Pennsylvania the school health services are those integral parts of the total school program which have to do primarily with the development and maintenance of physical health among pupils and employes. These services are at present only indirectly and incidentally concerned with mental, emotional, and spiritual health.

The minimum school health services as required by the laws of the Commonwealth of Pennsylvania are outlined in the following acts of the General Assembly:

The Act of May 18, 1911, P. L. 309, entitled "An Act to establish a public school system in the Commonwealth of Pennsylvania"

Act 425, June 1, 1945, P. L. 1222, entitled "School Health Act"

Act 426, June 1, 1945, P. L. 1226, and Act No. 522, July 5, 1947, P. L. 1301.

MINIMUM SCHOOL HEALTH SERVICES

The Scope

The health services enjoined upon all school districts of the first, second, and third classes by these Acts include the following:

1. Periodic, adequate medical and dental examinations of all pupils and employes
2. Sight and hearing tests of all pupils at least once in each year
3. Procedures and examinations considered to be necessary for the control of communicable disease
4. Pre-enrollment certification of all pupils and pre-employment certification of all employes with respect to vaccination against smallpox.
5. Special mental and physical examinations for mentally or physically handicapped children with provision of suitable special classes
6. The providing of medical care through the chief school medical examiner at the expense

of the school district, upon recommendation by the State Department of Health and the County Medical Director, in certain cases of minors under six years of age who are totally deaf or whose hearing is impaired.

7. The providing of food, including milk, at the expense of the school district to undernourished and poor children attending school.
8. Permissive employment of ophthalmologists or optometrists to perform special examinations of the eyes of pupils when such are considered necessary.
9. Physical examination of pupils incident to the issuance of employment certificates as required by the Child Labor Act.
10. Procedures considered to be necessary to correction of remediable defects discovered in pupils, to include the employment of one or more school nurses.
11. Cooperation with the various County Boards of Public Assistance in providing payment for necessary medical, dental, or surgical care in cases of children whose parents are financially unable to provide such care.
12. The sanitary survey of buildings and grounds
13. Organization of an Advisory Health Council within each school district

The Responsibility

The implementation of these legal requirements for school health services is primarily the responsibility of the district superintendents in school districts of the first, second, and third class, and of county superintendents in districts under their supervision.

The immediate responsibility for the functioning of the health services rests jointly with the principal or the teacher when the office of principal does not exist, the medical examiner or the director of Medical Services when such office exists, and with the school nurse. Essential to the functioning of these health services, is the coordinated action by the teachers, especially the teachers of health and physical education, the director of the Division of Health and Physical Education when such office exists, the school psychologist, the director of Special Education when such office exists, and the director of the Division of Pupil Personnel and



The Doctor Is a Key Person in a Good Health Program

Counseling, when such office exists, or in the absence of such office the counselor, the counseling teacher, and the attendance officer.

THE HEALTH EXAMINATION

Purpose

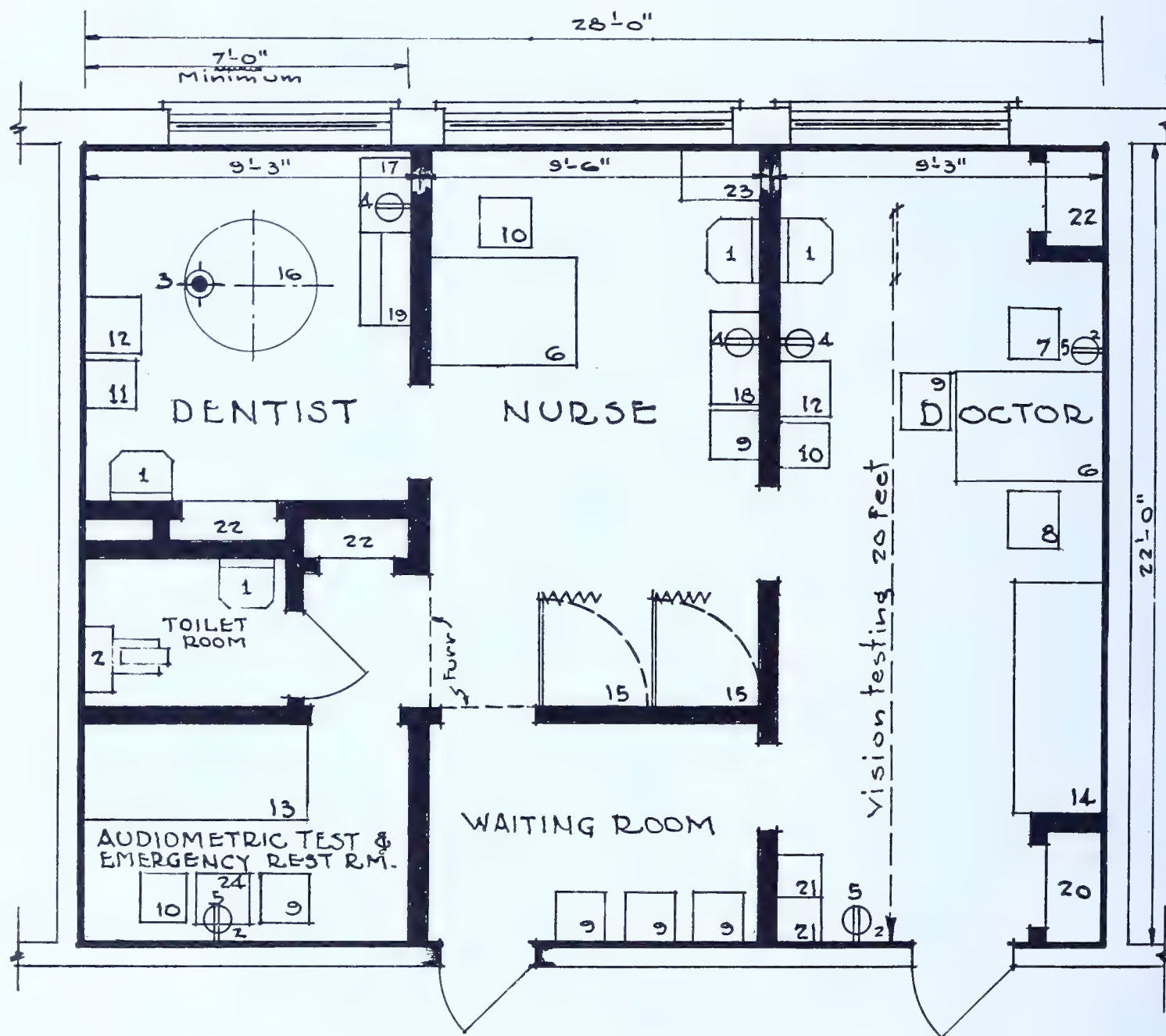
Since the purpose of the health examination is to determine the total health status of the child, the carrying out of this examination should be looked upon as an educational opportunity for the

pupil, the parent, and the teacher. The prescribing of fifteen minutes for each examination makes such education possible.

The Complete Medical and Dental Examination

(Act 425 of the 1945 General Assembly, P. L. 1222)

All pupils of school age whether in school attendance or not are required to receive these examinations during the time they are members of the first, third, fifth, seventh, ninth, and eleventh



SUGGESTED PLAN FOR CONVERSION OF
REGULAR CLASSROOM INTO HEALTH UNIT
FOR DOCTOR, DENTIST & NURSE

SCALE $\frac{1}{4}" = 1'-0"$

SYMBOLS

- | | |
|-------------------------|---------------------------|
| 1 Lavatory | 13 cot |
| 2 water closet | 14 Examining table |
| 3 Floor outlet | 15 Dressing booth |
| 4 outlet for sterilizer | 16 Dental chair |
| 5 Duplex outlet | 17 Sterilizer |
| 6 Desk | 18 First Aid Cabinet |
| 7 Chair, Doctor | 19 Dental Cabinet |
| 8 chair, Parent | 20 Closet-blankets, linen |
| 9 chair, Child | 21 Locker |
| 10 Chair, Nurse | 22 Closet, Cupboard |
| 11 chair, Dent. Asst. | 23 File case |
| 12 Recording table | 24 Audiometer |

RECOMMENDED BY
DEPARTMENT OF HEALTH
DENTAL AND SCHOOL DIVISIONS
DEPARTMENT OF PUBLIC INSTRUCTION
DIVISION OF HEALTH AND
PHYSICAL EDUCATION
DIVISION OF SCHOOL BUILDINGS

COMMONWEALTH OF PENNSYLVANIA
HWS

grades. Pupils admitted for the first time to grades not specified for examination should be examined as soon as practicable after admission, unless they have been transferred from a Pennsylvania school and their accompanying records show a complete physical examination performed during the previous year.

It is contemplated that these examinations will be performed by medical and dental examiners employed by the school district. Any child of school age, teacher or other employe, may meet the examination requirements by providing the local school officials with a report of examinations made at the expense of the parent, teacher, or other employe by a personally selected medical or dental examiner; forms as prescribed or approved by the Secretary of Health shall be used for these reports. The biennial complete physical examination of pupils and employes may be waived if written objections are filed by the parents or employe on grounds of religious conviction. The waiver shall not be granted if the Secretary of Health shall find that failure to perform the examination would constitute a present substantial menace to the health of persons exposed to contact with the unexamined person.

Health Room

According to the School Health Act these examinations when performed by school medical or dental examiners shall be made in a "health room, clinic, or properly equipped room with all necessary accessories to insure privacy." It is required that sufficient clothing be removed to insure a complete medical examination.

Medical examiners shall be assisted by a registered nurse, and dental examiners by a registered nurse, dental hygienist, or other assistant who shall be present during each examination. Parents of children of school age shall be advised in advance as to the dates of the examinations and shall be urged to be present.

Special Examinations

Medical and dental examinations shall include X-rays and such other special examinations as may be deemed necessary by the examiners. The Department of Health is required to reimburse school districts of the first, second, and third class for expenditures for X-ray and other special laboratory examinations deemed necessary by the examiner,

provided the facilities of the school district or the local Health Department are inadequate to furnish the health examination required. Special provision may need to be made for examinations of children who repeat the even-numbered grades. Careful and complete records of each examination on forms prescribed by the State are required. Recommendations as to medical, surgical, or dental care shall be sent to each parent or guardian on the forms prepared by the State Department of Health.

Reports

Reports as to health corrections recommended shall also be made by the medical and dental examiners to the proper school authorities and the Department of Health. When a pupil is transferred from one school district to another district in Pennsylvania or to another state, a copy of the medical record shall be sent to the school to which the pupil is transferred. If the identity of the school to which the child is transferred is not known, a copy of the medical record should be given to the parent or guardian. The original medical record should be retained in the school from which the child is transferred.

Follow-up

The essential part of these health examinations is the follow-up to secure correction of remediable defects. It is the duty of the school nurse to follow up the recommendations for correction of physical defects. The dental hygienist may follow up the recommendations for correction of dental defects. The follow-up should not be limited to any given school year. While the examination is scheduled for pupils in the odd-numbered grades, the follow-up should be continued in Grades 2, 4, 6, 8, 10, and 12.

The Responsibilities of the Classroom Teacher in Connection with the Complete Physical Examination

The classroom teacher has more direct contact with the pupil than any other individual. She is in the most strategic position to exert a powerful influence on the mental, physical, and emotional development of the pupil. There is much the classroom teacher may do to make the complete physical examination most effective.

Prior to the Examination

1. Explain the nature, purpose, and value of the examination to the pupils, and when opportunity offers, to the parents.
2. Create proper pupil attitude by dispelling any fear of the physician or of the dentist.
3. Urge parents to be present at the examination. (For the convenience of parents having several children in school, arrangements may be made to have children examined by families rather than by grades.)

Just Before the Examination

1. Send the pupils to the physician in good humor and on time.
2. Encourage pupils to cooperate fully and intelligently with the physician and nurse.
3. Direct physician's or nurse's attention to any special physical or emotional condition previously noted in the pupil.

THE CORRECTION OF REMEDIAL HANDICAPS

There are three phases of the program which should be dealt with cooperatively: *First*—The continuous problem of knowing the facts about the condition of one's body; *Second*—A continuous follow-up program without which the examinations are largely a waste of time and money; and *Third*—Abundant opportunity for vigorous exercise and other bodily functioning under conditions that will promote good health.

The Nurse

1. As soon as possible after the examination the nurse should interpret to parents and teachers the results of the health and dental examination of individual pupils in order that necessary adjustments in the daily living of the child may be made in the classroom and in the home.

The Teacher

1. Should make adjustments to assist in correction by changing pupils' seats for impaired vision or impaired hearing, by excusing pupils for special assignments, and by arranging for corrective exercises for improving posture.

2. Should be of assistance in helping nurses contact parents.
3. Should devise a plan of checking regularly with pupils to ascertain progress made in having remediable defects corrected.
4. Should enter defects on the progress card and on roll sheet.
5. Should make use of visual aids — posters, slogans, etc.
6. Should check faithful practice of obvious corrective measures, such as proper posture and the wearing of eyeglasses.
7. Should emphasize well-being and good appearance that go with good health and the correction of physical defects.
8. Should teach health and physical education as effectively as possible. The prevention of health handicaps should be studied in the health instruction program.
9. Should know the facilities available in the community, such as health organizations, clinics, and welfare groups.
10. Should persuade parents to cooperate in having the child's defects corrected.
11. Should understand the program of and cooperate with the work of the school physician, the dentist, dental hygienist, psychologist, and others.
12. Should note pupil's inability to see the blackboard properly, apparent deafness, frequent colds, unnatural restlessness, frequent trips to toilet, habit spasms, convulsive attacks and any other unnatural trait, and report these to the nurse or doctor when the pupil is examined.

Cumulative Health Records

Each school must keep a convenient, accurate, and up-to-date record of every pupil. These records should be kept confidential. The records should be cumulative and progressive throughout the pupil's school life. Absence records are a part of the health record.

Individual records should be available for use by administrators, teachers, physicians, nurses, and counselors. They should be clear, as simple as possible, and provide the soundest basis and best focus for interpreting health needs of the children. These records serve also as valuable information in the guidance program.

THE CONTROL OF COMMUNICABLE DISEASE

A Teacher Should

1. Know the State regulations regarding the exclusion of pupils¹
2. Know and detect signs of disease

Many communicable diseases start with similar early symptoms. In the morning inspection of pupils, teachers should look for the symptoms listed below. The pupils having any of these symptoms should be excluded from the classroom immediately and sent, depending on the facilities of the district, to the principal, teacher, physician, or nurse, for a possible exclusion from the school. The nurse has no authority, however, to exclude pupils from school.

SYMPTOMS

Unusually flushed face	Red or watery eyes
Unusual pallor of face	Sniffles or running nose
Skin eruption—rash or spots	Eyes sensitive to light
Skin peeling	Dizziness or headache
Repeated coughing or sneezing	Chills or fever
Sore throat	Listlessness
Stiff or painful neck	Pain in chest
Swollen neck glands	Diarrhea
Nausea or vomiting	Abnormal irritability
	Abdominal pain

Quarantine and Isolation

Quarantine shall be established for the following diseases: acute anterior poliomyelitis, bubonic plague, epidemic cerebrospinal meningitis (cerebrospinal fever, spotted fever), cholera, diphtheria (diphtheritic croup, membranous croup, putrid sore throat), scarlet fever (scarlatina, scarlet rash), smallpox (variola, varioloid), and yellow fever.

No child or other person suffering from such quarantinable diseases shall be permitted to attend any place of amusement or any church or other public gathering or to be exposed on any public street or in any store, shop, factory, or other place of business or be permitted to attend any public, private, parochial, Sunday, or other school and the teachers of public schools and the principals, superintendents, teachers or other persons in charge of private, parochial, Sunday, or other similar schools are hereby required to exclude any such person from said schools—such exclusion to continue until receipt of written notice from the health officer that the quarantine has been removed.

¹Refer to the official bulletin, *Rules and Regulations for Control of Communicable and Other Diseases*, Pennsylvania Department of Health, Sept., 1948.

Quarantine Periods

The duration of quarantine, whenever a definite number of days is specified, shall be calculated from the date of appearance of first symptoms of the disease (date of onset).

Control and preventive measures to be employed on the appearance of acute gastroenteritis induced by food, acute hepatitis, bubonic plague, cholera, leprosy, psittacosis, Rocky Mountain spotted fever, typhus fever, Weil's disease, or yellow fever shall be determined by the Secretary of Health or his designated agent.

The quarantine period for epidemic cerebrospinal meningitis shall be until the recovery of the patient (from all acute symptoms). The quarantine shall continue for fourteen days in the event of death or removal of the patient.

The quarantine period for acute anterior poliomyelitis shall be 14 days. The quarantine shall continue for 14 days in the event of death or removal of the patient.

Quarantine for diphtheria shall continue until virulent diphtheria organisms are no longer present in either the nose or throat of the patient as determined by laboratory examination of cultures.

The quarantine period for scarlet fever shall be a minimum of 21 days and shall be prolonged if necessary until complete recovery from all catarrhal or purulent discharges incident or secondary to the disease. The quarantine shall continue for ten days after death or removal of the patient, should there be susceptible persons in the household.

Observation Quarantine of Contacts

When deemed necessary for the protection of the public, persons known to have been exposed to a communicable disease shall be quarantined and the premises placarded.

Persons other than those of the household are forbidden to enter. Observation quarantine shall be terminated at the end of the incubation period of the disease to which the individual has been exposed, provided he has not developed the disease.

Maximum incubation periods are declared to be:

Acute anterior poliomyelitis (infantile paralysis) . . .	14 days
Cerebrospinal meningitis	14 days
Chicken pox	18 days
German measles	18 days
Measles	14 days
Mumps	21 days
Scarlet fever	10 days
Smallpox	18 days
Diphtheria	5 days
Whooping cough	14 days

Carriers

Carriers of diphtheria bacilli shall be placed under observation quarantine until cultures from nose and throat are negative on two successive occasions not less than 24 hours apart—or the cultures are found to be avirulent.

Household Contacts

No child or other person *residing on the same premises* with a person suffering from any disease hereinbefore declared to be quarantinable shall be permitted, except with the consent of the health authorities, to attend any place of amusement, church, or other public gathering or be exposed on any street or highway or in any shop, store, factory, or other place of business or to attend any public, private, parochial, Sunday, or other schools; and the teachers of public schools and the principals, superintendents, teachers or other persons in charge of private, parochial, Sunday or other schools are required to exclude any and all such persons until receipt of written notice from the health officer that quarantine has been removed.

No physician or other person, except the health officer or other representative of the health authorities, shall grant permission for any person to remove from the premises on which a case of quarantinable disease exists.

Any child or other person residing on the same premises on which a person is suffering from a disease hereinbefore designated as quarantinable, except diphtheria, if immune to the disease by reason of a prior attack (the fact of such attack to be shown by records of the health authorities) may, with the consent of the health authorities, remove from the quarantined premises, take up his or her residence on other premises and be released from observation.

Any nonimmune child or other person residing on the same premises with a person suffering from any disease hereinbefore designated as quarantinable, except diphtheria, may, with the consent of the health authorities, remove to other premises occupied by adults or immune children and there be placed under observation quarantine.

Any child or other person residing on the premises under quarantine for diphtheria, if given an immunizing dose of diphtheria antitoxin or known, by reason of a negative Schick test, to be immune to diphtheria, may, with the consent of the health authorities and after negative cultures from nose

and throat, remove to other premises and be released from further observation.

Any child or other person residing on the premises in which exists a case of paratyphoid fever or other Salmonella infection, typhoid fever or dysentery (bacillary or amebic), shall not be restricted in his or her attendance at school or other vocation, provided the patient is properly isolated and measures for the protection of the other members of the household from infections are faithfully observed. When such precautions do not exist, the household shall be placed under quarantine.

Termination of Quarantine or Isolation and Terminal Disinfection

The quarantine for diphtheria shall be terminated when cultures from both nose and throat of the patient have been negative on two successive occasions not less than 24 hours apart and at least one negative culture has been obtained from the nose and throat of each household contact. Cultures shall not be taken earlier than the twelfth day of disease. Virulence tests may be done on persistently positive cultures. Quarantine shall be terminated if cultures are reported avirulent.

The quarantine for acute anterior poliomyelitis, cerebrospinal meningitis and scarlet fever shall be terminated at the expiration of the specified quarantine period if the attending physician has certified to the health officer that the patient has recovered from these diseases and there are no other cases upon the premises.

Measles, Whooping Cough, Chicken Pox, German Measles, and Mumps

No parent, guardian, or other person responsible for a child suffering from measles, whooping cough, chicken pox, German measles, or mumps shall permit the child to attend, nor shall any other person suffering from any of these diseases attend, within the intervals specified below for each of the diseases mentioned, any public, private, parochial, or other school. Any child or other person suffering from any one of the diseases mentioned above shall be restricted to his own premises during the interval referred to.

Measles—10 days from onset of illness.

German Measles—7 days from onset of illness.

Whooping Cough—4 weeks from onset of illness.

Chicken Pox—until all crusts have disappeared.

Mumps—until swelling can no longer be felt.

1. *Measles*—Early symptoms are those of acute cold in head and chest with temperature and malaise. Rash appears usually about fourth day of disease, is raised dusky, red, and blotchy, and gradually extends from initial position on the chest to all parts of body, including face. Mass immunization—none. Child must be excluded from school with notice of exclusion to parent and health officer (Form HHC-43).¹ Measles cases readmitted to school on or after tenth day from date of first symptoms (date of onset). Health officer's or physician's certificate not required. Other children and members of family in no way restricted. Placard not necessary, but patient must remain on premises.
2. *German Measles*—Early symptoms are temperature, malaise, rash, enlargement of lymph glands back of neck. Rash usually among first signs, is finer and brighter than that of measles—usually more sparse. Disease is mild. Mass immunization—none. The child should be excluded from school with notice of exclusion to parent and health officer (Form HHC-43). Re-admission on or after seventh day of disease. Health officer's or physician's certificate not required. Children and adults in household in no way restricted. No placard, but patient must remain on the premises.
3. *Chicken Pox*—Earliest symptom is usually the eruption accompanied by more or less temperature and malaise—depending upon severity of attack. The eruption consists of small, clear, dewdroplike blisters, rapidly becoming cloudy, then yellowish pustules which dry and form superficial crusts. Numerous crops of these lesions appear and run their courses for several days. Distribution of rash:—Typically most profuse on trunk and relatively less prominent on extremities and face, although these do not escape. Mass immunization—none. Child must be excluded from school with notice of exclusion to parent and health officer (Form HHC-43). Readmission when all crusts have disappeared. Health officer's or physician's certificate not required. Other members of household not restricted. No placard, but patient must remain on premises.
4. *Whooping Cough*—Early symptoms are those of cold in head and chest, with temperature

and malaise. Cough more and more paroxysmal, frequently accompanied by vomiting. Characteristic whoop develops after week or ten days. Disease not ordinarily recognized until whoop is heard. Immunization—whooping cough (pertussis) vaccine should be administered in infancy (probably about third month) with booster dose when child enters school. May not be in all instances absolutely a preventive. Child must be excluded from school with notice of exclusion to parent and health officer (Form HHC-43). Readmission after twenty-first day of disease. Health officer's or physician's certificate is not required.

5. *Mumps*—Early symptoms are temperature, malaise, sometimes soreness of throat accompanied by swelling salivary gland or glands. Commonest gland involved—the parotid, located at angle of jaw and normally not seen or felt. Typical swelling in mumps is smooth, soft, covers the angle of the jaw, extending to neck, below and behind it, under ear and upward over cheek to immediately in front of ear. Mumps may involve both sides of face or be limited to one side; the other side may become involved during the course of primary swelling. Salivary gland under the tongue and those lying inside the jawbone between chin and angle are less frequently involved. May be complicated by inflammation of genital glands in older persons. Mass immunization—none. Child must be excluded from school with notice of exclusion to parent and health officer (Form HHC-43). Readmission when swelling can no longer be felt. Health officer's or physician's certificate not required. Other children and members of family in no way restricted. Placard not necessary, but patient must remain on premises.

*Readmittance to School*²

Teachers and others in charge of public, private, parochial, or other schools shall not readmit during the above mentioned intervals any child who has been absent because of illness due to measles, whooping cough, chicken pox, German measles, or mumps.

School physicians shall exclude from school any child suffering from measles, whooping cough, chicken pox, German measles, or mumps. When no school physician is employed teachers shall likewise exclude any child suspected by them to have any of these diseases.

¹Pennsylvania Department of Health form. See page 397.

²Consult Pennsylvania Department of Health Bulletin, *Rules and Regulations for the Control of Communicable and Other Diseases*, Jan., 1946.

Any child so excluded by a school physician shall not be readmitted to school in less than the prescribed intervals; nor within the prescribed interval if excluded by a teacher unless a physician certifies that the child was not suffering from the disease suspected by the teacher, or from any other communicable disease.

No restrictions are imposed upon household contacts of measles, whooping cough, chicken pox, German measles, or mumps.

School Exclusion¹

Every teacher, principal, superintendent or other person or persons in charge of any public, private, parochial, Sunday or other school or college shall immediately exclude any child or other person showing an unusual skin eruption, swelling about the neck suggesting mumps, soreness of the throat or having symptoms of whooping cough or diseases of the eyes and shall report the fact of such exclusion and the reasons therefor to the health office of the township, borough, or city in which the school is situated, together with the name and address of the child or other person excluded.

No child or other person excluded from any public, private, parochial, Sunday or other school or college on account of having or of being suspected to have a quarantinable disease shall be readmitted until he or she presents a certificate from a physician stating that the condition for which the child was excluded was not communicable or until he or she presents a certificate from the health officer indicating release from quarantine. No child who has been absent from school by reason of having had a quarantinable disease or because of residing on premises where there has been a quarantinable disease shall be readmitted to school except upon the written certificate of the health officer, whether or not there has been a physician in attendance or whether or not the household has been under quarantine.

No child or other person suffering from acute contagious conjunctivitis (pink eye), impetigo contagiosa, pediculosis capitis, pediculosis corporis, scabies, tinea circinata, tonsillitis, trachoma or favus shall be permitted to attend any public, private, parochial, Sunday, or other school or college. The teachers of public schools and the principals, superintendents, teachers, or other persons in charge of private, parochial, Sunday, or other similar

schools or colleges shall exclude any such person from said schools, such exclusion to continue until the case has recovered; provided that any child or other person suffering from ringworm of the scalp caused by *Microsporon audouini* shall be admitted to school under the following conditions:

1. The child must be under treatment.
2. While in school the child must be under the constant supervision of the school physician, nurse or teacher.
3. The child must wear his own snugly fitting skull cap made of any closely woven washable material and large enough to cover the hairy part of the head. The cap must be worn constantly from the time the child leaves home until he returns.
4. The child must not be permitted to swim or engage in any personal contact exercise.
5. Each child must have a paper container at the school—(e.g. a shopping bag)—in which to keep his cap, hat, scarf, or any other article of clothing coming in contact with the head. These containers and their contents and the child's coat, jacket, sweater, etc., shall be accommodated in closets or cloakrooms not used for the clothing of unaffected pupils.

No child or other person who has been excluded or who has been absent from any school by reason of having or of being suspected to have acute contagious conjunctivitis (pink eye), impetigo contagiosa, scabies, tinea circinata, tonsillitis, trachoma or favus shall be readmitted except with a certificate from a physician.

Encourage Immunization

A program of immunization will reduce to a minimum those diseases for which satisfactory immunization procedures have been developed.

Whooping cough—immunization recommended at age of 3 months (early immunization is desirable because 80 per cent of deaths from this disease occur during first year of life).

Diphtheria — immunization recommended at 6 months or soon after.

Smallpox—vaccination during first year.

In order to maintain immunity, stimulating or booster doses of diphtheria toxoid are recommended upon entering school. Children should also be revaccinated at this time. Revaccination, however, is not a "must" for admission to school.

¹Consult Pennsylvania Department of Health Bulletin, *Rules and Regulations for the Control of Communicable and Other Diseases*, Jan., 1946.

The Classroom Survey or Inspection

The teacher should begin the day with a classroom survey which may be formal or informal in type.

In cases of epidemic or threatened epidemic a formal type of inspection should be made and continued during the period of incubation of the epidemic disease. In the formal type of inspection the teacher stands with her back toward the window while the pupils pass before her facing the light.

In the informal type of classroom survey, the pupil is not conscious of being observed. It is desirable that the teacher be aware of the pupil's appearance as he enters the room before mingling with the other children.

The health problems found as a result of the above survey may frequently need to be discussed

more extensively during the direct health teaching period.

There is another type of inspection which goes on any time during the year in which the symptoms may be cumulative or a combination of mental, emotional, physical, and social manifestations of deviation from the normal.

When in doubt call a school physician.

Detection of Signs of Other Illness

During the morning survey the teacher should also detect signs of illness other than communicable disease. Teachers should not attempt to diagnose, but when signs are observed they should refer the pupil to the school physician, nurse, or principal. As stated in reference to communicable disease, the teacher should be alert to these symptoms throughout the day.

DETECTION OF ILLNESS

DEFECT	SYMPTOMS	BEHAVIOR
EYES	Itching, watery eyes, inflamed eyelids, crusted lids, defective reading eye movements, crossed eyes, inability to see board.	Frowning, blinking, rubbing eyes, tilting of head to see better, complaint of light, shaking motion of eyeball, holding reading material abnormal distance away.
TEETH AND MOUTH	Dental decay; inflamed, bleeding gums; crooked, broken teeth, offensive breath, stained teeth, abscess, inflamed tongue.	Inattention, restlessness, complaint of toothache, difficulty or change of speech.
EARS	Discharge, odor- cotton in ear, earache, deafness.	Inattention, tilting head to affected side, holding affected ear, misinterpretation of orders.
NOSE AND THROAT	Mouth breathing, attacks of coughing, swollen glands, nasal discharge, hoarseness, difficulty in swallowing.	Repeated absences from school due to illness, irritability, and restlessness.
NUTRITIONAL DISTURBANCES	Pallor; circles under and puffiness of eyes, lack of physical development and poor muscle tone, excessive fat, underweight, or failure to gain weight, faulty posture, vitamin deficiency symptoms, corners of mouth sore and red.	Dull, lacking in energy, tires easily, restlessness, disinclination to play, loss of or fickle appetite, nervous habits, biting of nails or lips, shortness of breath after mild exercise.
POSTURAL DEFECTS	Round shoulders, protruding shoulder blades, depressed chest, protruding abdomen, improper balance, pronated feet, knock-knees or bowed legs, spinal curvature.	Functional deficiencies in walking, running, jumping, lack of interest in competitive play.
HEART DISEASE (Rheumatic Fever)	Color (may be blue), fatigue on slightest exertion, nose bleeds, shortness of breath, joint pains, palpitation.	Disinclination to play, anxious look, repeated absences.
SKIN LESIONS: <i>Eczema</i> (commonest of all skin diseases)—not contagious <i>Acne</i> (common in adolescence) — not contagious	May be anything from simple redness of skin to mass of pustular crusts. Pimples, blackheads.	
GENERAL PHYSICAL DISORDER	Greatly over or underweight; body build too large or small for age; pallor; weary expression, poor posture, puffiness or dark circles under eyes.	Acts tired, easily irritated, frequent trips to toilet, fainting spells or nosebleeds, shortness of breath after mild exertion, lacks appetite, persistent nervous habits, i.e., muscular twitching or biting nails or lips.

Evidences of Deviations from Normal Behavior

The following mental, emotional, and social behavior problems frequently arise from physical defects, lowered vitality, and actual illness. When such is the case it is essential to the child's future health and happiness, that the help of a psychologist be obtained. The cause must be determined when such a problem arises in order to help the pupil find a satisfactory solution. Evidences of such deviations:

1. Overtimidity, seclusiveness
2. Overaggressiveness; constant rivalry and quarreling with others
3. Excessive daydreaming; persistent inattentiveness
4. Extreme sensitiveness to criticism, expressed or implied, feelings hurt easily; cries easily
5. Difficulty in reading or reciting
6. Failure to advance in school at a normal rate with adequate intellectual capacity
7. Extreme docility or anxiety to please
8. Excessive boasting or showing off -- anything to attract undue attention
9. Resistance to authority; constant complaints of not being treated fairly, of being discriminated against, "picked on"
10. Poor sportsmanship; unwillingness to engage in group activities which might result in losing and so in loss of face; not playing fair; cheating in group games
11. Undue restlessness; habit tics, stammering, nail biting, or lip-sucking
12. Excitability, trembling, fainting spells, convulsions, epileptic seizures, temper tantrums, infantile regressions, morbid disposition, persistent dishonesty, truancy, deceitfulness, negativism, hysteria, speech disorders, chronic headaches, dizziness

OTHER MEDICAL SERVICES

Certain school districts have exceeded the minimum legal requirements for health services by instituting the following services of their own volition: (1) Medical examination of all pupils previous to participation in intra or interschool athletic programs, and in agricultural programs; (2) Med-

ical examination and supervision of all known cases of heart disease; (3) Special examinations and procedures relating to the discovery and supervision of cases of diabetes, tuberculosis, and venereal disease among pupils; (4) Remedial programs in cooperation with local physicians and health agencies in regard to ocular defects and orthopedic defects, including cases of infantile paralysis and cerebral palsies; (5) Immunization program with respect to diphtheria and tetanus; and (6) Surveys of nutritional status of pupils with provision of nutrition classes.

The Incidental Physical Examination of Pupils

This service is not specifically required by the School Health Act 425 (1945). However, when a teacher, principal, nurse, or other employe notes a possible or obvious physical defect in a pupil, the pupil should be referred to the medical examiner for adequate examination. Proper follow-up of defects noted should be made in the same manner as prescribed for the biennial complete physical examination.

Health Examination Prior to Interschool Activities

Adequate medical examinations should be provided for all pupils that participate in interschool activities. It is not recommended that elementary pupils engage in extensive interschool activities, but occasional play days, game days, and track meets may be conducted to bring together pupils in different schools for socialized participation in games and activities.

When this occasion arises, even though the activity may not be more strenuous than the ordinary school activity, certain emotional factors may enter into the situation which make necessary a definite medical examination.

Coordinating the School Program with Other Special Health Programs

In schools where tuberculin testing or other special examinations are given as a part of the program of other health agencies, the program should be carefully coordinated with the school health program. The teacher should be informed with regard to her part in the program.

ADVISORY HEALTH COUNCIL

Organization and Responsibilities

The responsibility for establishing an Advisory Health Council rests with district superintendents in school districts of the first, second, and third class, and county superintendents in districts under their supervision. They shall set up an Advisory Health Council to study the health needs and to assist in organizing a follow-up program. (See Section 1515, 1947 *School Laws of Pennsylvania*.)

The Advisory Health Council has the following functional responsibilities:

1. To study the reports of the medical and dental examiners, relating to the number of pupils reported as having remediable defects, thereby obtaining a general picture of the problem of correction.
2. To inform the community of the result of the findings of the medical and dental examiners.
3. To organize an educational program for adults, stressing the parental responsibilities for making necessary corrections.
4. To become acquainted with the corrective services that are available from local organizations, as well as those services made available through various departments of the State.
5. To receive reports from school nurses who have made an analysis of the reports of the school examiners in order that the council may know of the number of parents falling under one of these groups

- a. The number of parents who upon receiving notice of the defects, have already consulted their physician.
- b. The number of parents who, in the opinion of the nurse, will need home visits and further education in order to obtain correction.
- c. The number of parents who are financially able, but who are careless in attending to the corrections which their children need.
- d. The number of parents who are willing to have corrections made, but who are financially unable to do so in whole or in part.

Representative Membership

This advisory council is composed of representatives of the medical and dental associations, school directors, school administrators, social organizations, veterans' organizations, parent-teacher associations, service clubs, and other interested organizations in the area served.

Health Guidance

Good health and the absence of illness are not necessarily the same thing. When a person is really healthy his body is not only free from disease but it so functions as to be a positive dynamic asset in all of his endeavor.

The necessary facts, knowledge, and skills to make good health possible are available for practically everybody. Through the leadership of our public schools, the habits, attitudes, appreciations, and ideals that will put such facts, knowledge, and skills to work must be promoted.

NOTES ON 233-C

HEALTHFUL SCHOOL LIVING

HEALTHFUL SCHOOL LIVING¹ is a term that designates the provision of a wholesome environment, the organization of a healthful school day, and the establishment of such pupil-teacher relationships as make a safe and sanitary school favorable to the best development and living of pupils and teachers.

A healthful school environment provides a means of teaching health indirectly. It helps to make healthy, happy pupils and tends to raise home and community standards of cleanliness and sanitation. It is highly important, therefore, that schools be maintained in an unusually clean and attractive condition. Attention must be given to the care of the classrooms, corridors, auditoriums, gymnasiums, toilets, shower rooms, playgrounds, and all parts of the school environment.

The place of the administrator, the teacher, the pupil, the physician, the nurse, the dentist, and the custodian should be emphasized. Each person should be helped to appreciate the essential service rendered by each member of the school's personnel.

While the administrator is responsible for providing the physical equipment necessary for healthful school living, the classroom teacher throughout the day must utilize the equipment and facilities with due regard for the health of pupils. She must also build and maintain a happy, wholesome atmosphere conducive to good mental health.

Factors Involved in Healthful School Living

The Teacher and Pupils Should Help Maintain Clean and Attractive Classrooms

1. Develop the habit of using the wastebasket.
2. Place clothing, rubbers, etc., in proper places.
3. Have a place for everything and teach pupils to put articles away.
4. Keep desks and table tops free of books at end of day so that they may be cleaned.
5. Encourage pupils to make suggestions for improvements.
6. Keep food in tin containers.
7. Provide space for storage of lunch boxes.

¹From a report of the Committee on Terminology of the American Physical Education Association.

²Care should be taken to adjust these factors when tables and chairs are used.

8. Change posters and decorations frequently.
9. Avoid the use of window draperies.
10. Avoid too many dust-catching collections of materials, displays, and decorations.

Cleanliness of the Pupil

1. The teacher should plan time for getting a drink and visiting the toilet, and for washing of hands at recess and noon periods.
2. Each pupil should be taught to wash his hands after the lavatory period, before lunch, and at other times when necessary.

Heating and Ventilation

The temperature, humidity, movement, and cleanliness of the air are important in maintaining a desirable environment, and should be maintained at desirable standards.

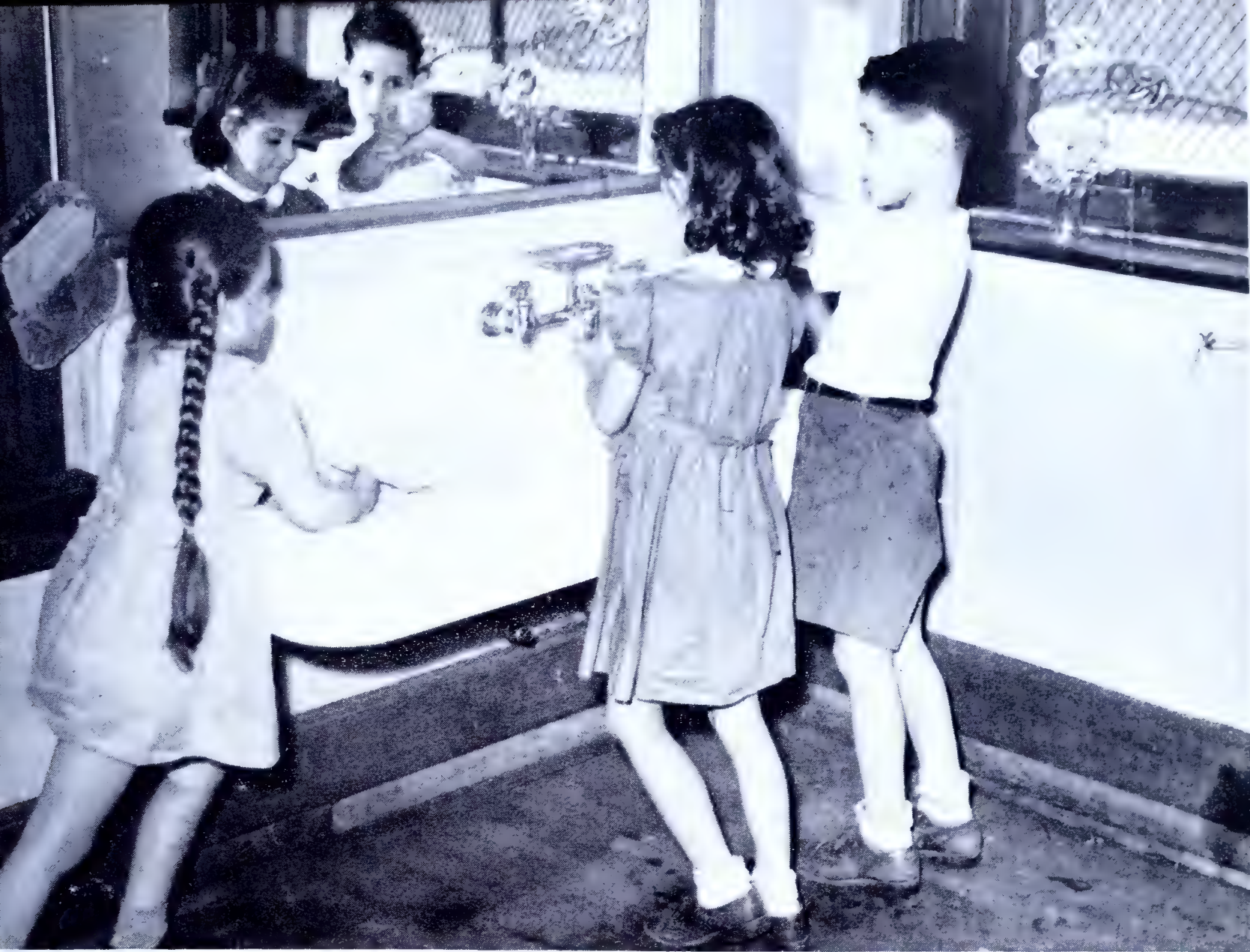
1. Have a thermometer and maintain room temperature according to activity engaged in by pupils. Normal classroom temperature is about 70 degrees F.
2. Maintain humidity of about 50 per cent.
3. Teach pupils to carry out regular thermometer inspection.
4. As nearly as possible provide proper ventilation throughout the school day.

Lighting

1. Adjust window shades for best possible light in keeping with the changing lighting conditions during the day.
2. Adjust shades to counteract glare.
3. Keep blackboards clean. It is difficult to see writing on an accumulation of chalk dust.
4. Posters, decorations, and plants should be placed where they will not obstruct light.
5. Make wise use of adequate artificial lights.

Seating²

1. The eyesight and hearing ability of each pupil should determine the location in the room where he should sit regardless of his height.
2. Movable seats should be placed in such a way that pupils using them will get the best possible light. In some classrooms the diagonal seating arrangement is more advisable than the customary arrangement in rows paralleling the side walls.



Children Establish Habits Through Practice

3. The movable seats should not be placed too close to the heat nor in a place where the child will be in a draft.
4. Pupils should not face bright light or work in their own shadows.
5. The seat and desk should be of the correct size for the pupil. During the year, check periodically for growth changes.
6. If the child's position in the room is changed for disciplinary reasons, his seat and desk should be moved.
7. Left-handed pupils may be seated in a row with their backs toward the windows.

Sanitation

1. In the vicinity of the toilets provision should be made for adequate hand-washing facilities, including soap and towels.
2. The common towel must be eliminated.
3. Frequent bacteriological tests should be made of the source of the water supply.

4. Source of water supply must be protected from surface drainage and other sources of pollution.
5. Drinking water should be supplied from sanitary sources through bubble fountains.
6. Instruct the pupils how to use the drinking fountains safely and hygienically.
7. In rural and other types of schools that have inadequate drinking facilities, the teacher and pupils should work together to improvise a plan for supplying safe drinking water.
8. The common drinking cup, dipper or glass must be prohibited.
9. Cleanliness of toilet and lavatory is essential. Strong or offensive odors are indications of poor housekeeping.

Provision for Rest and Relaxation

1. Opportunities should be planned for distributing short rest periods throughout the day. This will vary in type in the different grades. Pupils need to be taught to relax.

2. Avoid frequent and excessive amounts of home study, since such practice may affect the health of children in these ways:

Mental strains may develop.

The environment in which the child studies at home may lack good lighting and proper furniture, as well as quiet.

Children should have time to play outdoors after school hours.

Too much study may interfere with the child's needed rest.

Cooperate with the Program for Providing Activity Through Physical Education and Recess Periods in All Grades

1. Encourage children to go outdoors in the winter as well as in pleasant weather. Help children to obtain clothing to protect them from the weather.
2. Try to encourage and stimulate interest in good posture.
3. Avoid the practice of keeping children indoors at recess for disciplining purposes or to make

up work. Such practices constitute hazards to the child's health.

Playground and Physical Education Facilities

1. Mats and other equipment should be kept clean and a proper storage place should be provided.
2. Area assignments should be made by grades to insure safety of younger pupils.
3. Playgrounds and athletic fields should be free of dust and other unhealthful conditions; also proper drainage should be provided to avoid mud.
4. Playground apparatus should be checked frequently for safety.

Develop a Happy Relationship Between Teacher and Pupil

Give attention to the possible mental health hazards of strains, worries, speed, pressure, fears, feelings of inadequacy associated with work expected of pupils.

NOTES FOR 233C

HEALTH INSTRUCTION

HEALTH INSTRUCTION¹ is that phase of education which seeks to provide experiences and instruction for the promotion of attitudes, practices, habits, and understandings directed toward the improvement of individual, family, and community health.

The strenuous demands of modern life present a tremendous challenge to every individual interested in developing and maintaining good health. In spite of the advances of science, making possible a longer life expectancy, the health of the individual will always be a personal problem and responsibility. It is necessary, therefore, for each individual to acquire those knowledges, attitudes, habits, and skills that make possible intelligent self-direction toward the achievement of optimum health, happiness, and satisfaction in life for himself and others.

Since health is affected by everything one does throughout the 24 hours of the day, whether consciously or unconsciously, efforts to improve health must be a cooperative undertaking on the part of the school, the family, and the community. The fundamentals of good health must be taught throughout each year of the elementary school period, since each pupil is constantly confronted with the need of making decisions which affect his health. The health problems of the pupil vary from year to year, according to his age, growth, and development, and changes in his home, school, and community situation.

Difficulties arise in achieving the goals of healthful living, since there is no natural interest in health as such. Teachers need to be skillful in developing understandings and appreciations of the relationship of health to the achievement of what one wants to do in life. The approach, then, to health teaching will necessarily be motivated by relating the importance of good health to the desires of children—such as, to play outdoors, to play with other children, to make friends with other children, to avoid pain, to please parents and teachers, to become an athlete, to be attractive, to play a musical instrument, to be successful in school, and others. Teachers should avoid the type of teaching which emphasizes doing this or that in order to be healthy, and should keep in mind that good health is basic in achieving our aims in life rather than an end in itself.

The keynote of the health instruction program should be directed toward the promotion of healthful living, and the protection and maintenance of good health. The emphasis in teaching should, therefore, be placed on the positive aspects of wholesome living, rather than on a study of defects and disease.

The Scope

Extensive factual information is available for determining the content of the health instruction program. Some sources of information that should be studied are:

- The characteristics of healthy children
- The death rates among elementary school children, local, state, and national. Also, the death rates among the population as a whole
- The causes of illness among children of elementary school age, local, state, and national. Also, the sickness rates among the population as a whole
- The defects found as a result of the health and dental examinations
- The growth and developmental health hazards of different ages
- Current local, state, and national health problems
- Observed health problems in the school, the home, and the community
- Special interests and curiosities of boys and girls
- Previous instructional experiences of pupils
- Others

The Units for Instruction

A study of the above sources of information will show that the health needs of elementary pupils will center around certain major groupings. These are:

- Growth, nutrition, elimination
- The teeth
- Sleep, rest, and relaxation
- Fresh air and sunshine
- Play, work, and body mechanics
- Cleanliness—personal, school, home, and community
- Vision, hearing, and other special senses
- Mental and emotional health
- Alcohol, tobacco, and drugs
- The health and dental examinations
- Safety education and first aid
- Others

¹Defined by Committee on Terminology of the American Physical Education Association.

Time Allotment

In order that instruction pertaining to the units listed as fundamental may be carried out, time must be made available within the school day for all elementary school pupils. (School Laws of Pennsylvania, Section 1607.) The time allotted to such teaching should be carried out in three ways and should include time for the morning health survey.

Direct Instruction

This means a planned period or periods for systematic instruction in all elementary grades. The minimum time recommended is as follows:

- Kindergarten—short instruction periods as the need arises
- Grades 1 and 2—short instruction periods as the need arises
- Grades 3 and 4—two half-hour periods a week
- Grades 5 and 6—two forty-minute periods a week

Integrated Teaching

Other subjects in the curriculum provide extensive opportunities for health teaching. These opportunities should be utilized to re-enforce and enlarge upon the teaching going on in the direct instruction period, as well as to show the relationship of health to all of life. Such instruction may be carried on best in those subjects in which there is a natural relationship to health, as physical education, reading, art, social studies, science, arithmetic, music, and others.

Incidental Teaching

This is the type of health instruction which goes on throughout the day as situations arise. It takes the form of a brief comment to an individual or small group. The teacher must be alert to and make use of, the opportunities that arise for constant checking on health practices and attitudes. For instance, in many homes drinking is accepted socially. Whenever children mention, in conversation, the problems attendant upon consuming alcoholic beverages, the teacher must be able to handle these situations in such a way that the child's attitude will be improved and at the same time the home and parents will not be held up to ridicule. The comments made must be positive and helpful, and must not deteriorate into nagging.

The Morning Health Survey

This is a brief period at the opening of school which has two purposes: the detection of signs of communicable disease and other illnesses; and inspection concerned with the carrying out of health

practices, such as cleanliness. It may be carried out in various ways, depending upon the understanding and ingenuity of the teachers. The methods used will vary considerably in the lower and upper grades.

Characteristics of Health Teaching

In Kindergarten and Grades One, Two, and Three

The chief emphasis is upon the development of desirable health practices and attitudes and knowledge within the ability of children to understand the reasons why certain practices are necessary. They should also be taught skills associated with the practices.

The teaching is largely associated with the health implications of situations which pupils meet in their daily lives in school, in the family, and in the community. While much of the instruction will tend to occur at the time that situations arise, it is vital that teachers recognize the importance of anticipating certain situations before they occur. This will be the function of the planned time for direct instruction.

The teaching should progress in degree of difficulty and be suited to the changing needs and interests of pupils. Special planning is necessary to develop an increased awareness on the part of the pupil of his responsibility for his own health and that of others. The deadening effect of repetition of the same content in each grade may be avoided by teachers' planning with the supervisor, or with each other where there is no supervisor. In every situation, however, the quality of flexibility should be maintained.

Reading materials may be placed on the library shelves or used as a part of the reading lesson in Kindergarten and Grades 1 and 2. It is recommended that adequate reading materials be available for the health teaching period in Grade 3.

1. The vocabulary should be checked against the reading vocabulary for the grade level. Teachers should examine the book for a statement to this effect.
2. The content should discuss the real-life situations of boys and girls of the particular age level in which they are to be used. Fairy tales, personification of vegetables, parodies on patriotic songs or fine literary pieces should be avoided.
3. The illustrations should be colorful, attractive, and well suited to the grade level.

4. The content should be challenging and thought-provoking; very often it will be in story form.
5. Books should have durable, washable covers. Where the same series is used in different grades, there is a greater appeal to children if the colors vary for different grades.

Visual aids should be extensively employed.

These include:

- Charts, posters, pictures
- Models of food
- Construction of models; farms, playgrounds, etc.
- Movies
- Demonstrations of a good breakfast, care of the teeth
- Visits to the dental clinic, dairy, etc.
- Slides
- Others

In Grades Four, Five, and Six

The practices initiated in the lower grades should be continued, but the pupil should gain in self-direction and in planning his day to take care of essential health habits. He should also learn how to change a poor health practice and to build new ones according to changes in situations. The knowledges taught should give increased understandings of reasons why certain health practices are fundamental. Examples: Why we need daily vigorous activity; why we need to include basic foods in our diet; why we should avoid smoking; why we need to train our nervous system, etc. In these grades, in order to achieve this, some fundamental facts about the parts of the body and how these parts work must be taught. Such information should not be taught as isolated physiology and anatomy, but rather related to and in support of essential practices, habits, and attitudes. The vocabulary should be kept within the ability of the pupil to understand.

Pupils may help in studying and planning instruction. For example, the school lunch period, safety hazards, ventilation, etc.

Reading materials should be used to solve health problems, rather than to follow the chapters in a book. Wide and varied reading should be encouraged. Therefore, the reference shelves should contain adequate and up-to-date materials, properly suited to the grade levels and reading groups within the grade. Scientific information in the field of health has progressed so rapidly that only the most recent books will contain present scientific knowledge. Some criteria which may be used in the selec-

tion of text, reference, and other reading materials follow:

- Real problems of boys and girls of different ages should be presented
- The content should be challenging in degree of difficulty
- The vocabulary should be suited to the grade level
- The information should be scientifically accurate and up to date
- The content should stress positive healthful living rather than an extensive treatment of disease
- The illustrations should be attractive, colorful, up to date, presenting real-life pictures of boys and girls
- The scope of the discussion should be adequate
- Visual aids should include charts, movies, pictures, etc., suited to the grade level.

Planning the Program

Teachers will be confronted with the need for planning the details of a comprehensive program of health teaching for a given grade or grades that will fit into the total elementary school curriculum in their community. There are many ways of approaching such planning; only a few suggestions are offered here. Within the next three years, it is expected that teacher groups throughout the State will enlarge upon and refine this material for the preparation of Bulletin 233-C.

Each of the units listed in the preceding pages should be developed with consideration for the following factors:

- Analysis of the appropriate habits, attitudes, practices, skills, and knowledges
- Consideration of each unit from the individual, family, and the community point of view
- Analysis of the grade placement of content according to the needs of the pupils
- Utilization of the needs of the local situation to stimulate interest in the reality of material to be taught
- Planning of direct, integrated, and incidental teaching
- Planning methods of evaluating the results of the teaching
- Selection of appropriate reading and visual-aids materials
- Enlistment of parent and community help
- Several methods of planning follow:

EXAMPLE I. — *Blocking Out the Program for the Year* (Direct Teaching)

Teachers will find advantages in blocking out the work of the year to give an overview of the program in relation to the time available and the needs of the situation. This may be worked out in part with the pupils. It should have the quality of flexibility, and should constantly be adjusted to take care of current needs. However, in the course of the year, the basic program should have been completed. The chart which follows presents such an outline. It should serve only as a pattern for teachers in preparing their own.

**CHART A — BLOCKING OUT THE PROGRAM FOR THE YEAR
FIRST SEMESTER**

WEEK	FIRST QUARTER		WEEK	SECOND QUARTER	
	TUESDAY	THURSDAY		TUESDAY	THURSDAY
1	Safety en route to school	Safety en route to school	10	Habits that aid digestion	Elimination
2	Safety at school	Playground safety	11	Good manners	Inspect teeth What our teeth are like
3	Safety at home	Make safety posters	12	Foods that build strong teeth	Daily care of teeth
4	Mental health of school living	Weigh and measure pupils	13	Visiting the dentist	Prevention of colds
5	Pupils make growth charts	Self-check on food practices	14	Care of colds	Winter safety
6	Study lunch problems	Milk and foods that contain milk	15	Winter safety	Need of sleep and rest
7	Visit a dairy Study sanitation	Values of fruits	16	Conditions that favor sleep	Conditions that interfere with sleep
8	Diet value of green and yellow vegetables	Other essential foods	17	Weighing	Methods of relaxing during the day
9	Learning to choose a good breakfast	Choosing lunch at school or at home	18	Self-check on practices taught	Examination on knowledges

SECOND SEMESTER

WEEK	THIRD QUARTER		WEEK	FOURTH QUARTER	
	TUESDAY	THURSDAY		TUESDAY	THURSDAY
1	Observe cleanliness practices Values of cleanliness	Baths	10	The health and dental examination	Work of the doctor, nurse, dentist
2	Clean hands and nails	Care of hair	11	Vision and care of eyes	Vision and care of eyes
3	Clean clothing	Clean schools	12	Hearing and care of ears	Hearing and care of ears
4	Clean homes	Clean community	13	Other special senses	Prevention of disease
5	Values of work, play and other activity	Strong bones and muscles	14	Prevention of disease	How the community helps to prevent disease
6	Strong bones and muscles	Good body mechanics	15	Coffee—tea—soft drinks	Alcohol
7	Strong feet	Shoes	16	Tobacco	Narcotic drugs
8	Air and ventilation	Air and ventilation	17	Weigh and measure	Summer health practices
9	Sunshine	Weighing	18	Summer safety	Summer safety

EXAMPLE II. — *Utilizing the Local Situation to Initiate the Teaching*

Pertinent experiences of pupils may be utilized to stimulate interest in the program and to help pupils to realize and appreciate that health problems are ever present.

The Health Examination

Since the health examination will be a part of the experience of all elementary pupils within a two-year period, pertinent instruction may well grow out of the anticipated or past examination. Such instruction might include:

Why we need a health examination. Why parents should be present

Why pupils should undress partially for the examination

The work of the physician, the nurse, the dentist, and others

How the community helps

Prevention of defects: care of the eyes, ears, and teeth; nutrition and growth; rest, sleep, and relaxation; body mechanics, etc.

Means of correcting defects of vision, hearing, teeth, heart; malnutrition, nervousness, etc. The attitude of pupils toward defects

What the State does to help in this work

Others

The Physical Education Program

Many phases of health teaching will develop naturally from problems which occur during the physical education periods. Such problems might include:

Values of fresh air and sunshine, showing why it is better to play outdoors than indoors

Protection from the weather by wearing suitable clothing

Values of vigorous, big-muscle activity

Amount of time needed for activity

Balancing school and home activities

Mental and emotional aspects of the physical education program

Safety at play. First aid measures

Restrictions in activity following periods of illness

The importance of good body mechanics

Need for rest and relaxation

Foods that help us in vigorous activity

Cleanliness

Other problems

The Noon Period

Preparation for lunch at school or at home

Selecting and learning to eat foods that are needed

Atmosphere for lunch period—pleasantness, posture, quietness, good manners

Relaxation after meals

Suitable forms of relaxation, recreation, and exercise after meals

Importance of getting outdoors at the noon hour

Safety on the playground and on the street. Pertinent first aid

Special problems for children who carry lunch or who go home

Getting ready for the afternoon session. A plan for visiting the toilet, washing hands and face, combing hair, and relaxation

Other subjects for consideration

The Lavatory and Toilet Periods

The importance of regular elimination

Foods to aid elimination

The relationship of rest, relaxation, and well-balanced emotions

The avoidance of self-prescribed medicines

Cleanliness after visiting the toilet

The importance of drinking an adequate amount of water

Safety and cleanliness in the use of the drinking fountain

Pupil responsibility for the use and care of the toilet and lavatory facilities

Other subjects for consideration

Planning a Healthful Day

BEFORE GOING TO SCHOOL

Getting up in time to attend to body cleanliness, home duties, and breakfast

The importance of a happy mental state

Observation of illness symptoms which might indicate the importance of staying at home

DURING THE SCHOOL DAY

Reporting to the teacher upon the first signs of illness

Reporting accidents to the teacher

Avoiding excuses for not participating in play and physical education

Learning to take one's share of school responsibilities

Learning to be cheerful in undertaking work
 Learning to use time to good advantage
 Learning to dress properly for the weather
 Keeping hands clean
 Learning how to relax for short periods
 Others

AFTER SCHOOL HOURS

Liking to play or work vigorously outdoors after school; safety in work and play
 Cleanliness, good health habits, and good manners at meals
 Relaxation or light work after the evening meal
 Going to bed at the same time each night
 Getting adequate sleep each night according to individual needs

Avoiding movies and late radio programs on school nights
 Avoiding excessive participation in school or community affairs in the evening
 Avoiding reading in bed or listening to exciting radio programs before going to sleep
 Others

The Morning Health Survey

This survey, which may be conducted formally or with the pupils unaware of the teacher's observation, will indicate many problems which should be discussed, such as:

Prevention of colds and communicable disease
 Attitudes of pupils and parents with regard to staying at home when ill
 The importance of having clean handkerchiefs or tissues

The importance of staying away from people who are ill
 The State regulations in regard to communicable diseases
 Care of teeth
 Improving eating habits to prevent digestive disorders which may cause illness
 Elimination
 Care of the eyes to prevent headaches
 Need of adequate rest and sleep
 The importance of consulting physician or school nurse when ill
 The importance of coming to school clean
 Safety en route to school; first aid
 Mental health problems en route to school
 Others

EXAMPLE III. — *Integration of Health Teaching*

Integration of health teaching may be planned as a general policy, permitting teachers to use their judgment as situations arise which present opportunities for such integration, or each of the units to be taught in the health instruction program may be consciously incorporated in the teaching of other subjects. The latter constitutes the stronger program, since the former is too dependent upon the interest of the teacher. Suggestions for such a program follow:

Reading

The use of health books in reading classes
 Sufficient library books concerning units in health as supplementary readers
 Newspaper articles and current events concerning health articles

English

The writing of school newspaper articles about health
 Learning to spell words from health vocabulary
 Written and oral discussion about health problems
 Creating stories, poems, and plays about health
 Dramatizing health stories

Art

Posters relating to health units
 Charts and graphs to show rates of growth
 Murals relating to what we do in health units
 Diagram or sand project to show how or where we can practice safety

Music

Rhythms, words and tunes of songs make us have certain feelings and make us want to do certain things: lullabies make us want to sleep, waltzes make us want to dance, etc.

CHART B—INTEGRATION OF HEALTH UNITS

This chart shows how each unit might be integrated specifically with Social Studies, Physical Education, and Arithmetic. Each teacher can probably add many other ideas showing the relationship of health to these and the other elementary subjects.

UNITS IN HEALTH	SOCIAL STUDIES	PHYSICAL EDUCATION	ARITHMETIC
Growth, nutrition, elimination, teeth	Foods eaten by people in other countries and other times. Export and import of foods to balance the diet. Importance of climate and diet	Proper foods help us to be ready for physical activity. Proper physical activity helps appetite and growth	How much did you grow? Work in subtraction of fractions. Find the cost of a balanced cafeteria lunch
Sleep, rest, relaxation	Amount of sleep varies with climate and type of work. Consideration of others' rights to rest and sleep	Sleep helps our bodies become ready for physical activity while activity makes us tired—prepares us for sleep	Going to bed at 8:30, when should one arise to have slept eleven hours?
Air and sunshine	Health of people in certain sections or in certain types of work who spend most of their time in fresh air and those who do not. Ex. Coal miner, mailman	Importance of physical education in fresh air and sunshine. Plenty of ventilation, if indoors	What per cent of the day should be spent outdoors?
Work, play, and body mechanics	How machines of today have taken over much physical labor. Bodily activity of Indians, Eskimos, etc.	Certain types of exercises strengthen and build our bodies	How many hours of physical activity does the laborer have as compared with the office worker? Compare calories needed
Cleanliness—personal, home, school, community	How conditions of cleanliness have improved with years. Sanitary conditions in other countries	Shower rooms, gymnasium suits, and playgrounds kept clean	Keep an expenditure list of toilet supplies for one month
Vision, hearing, and other special senses	Do improper food and lighting harm vision and hearing? The improvement of corrective measures for those with vision and hearing defects	We must see and hear accurately and quickly in order to play many games	What per cent of the class needs corrective work done? What per cent have corrected their defects?
Prevention and control of communicable diseases and other illnesses	Why certain diseases are more serious in certain countries. What science has done toward prevention	Adequate physical activity helps make strong bodies better able to resist disease	How much school time must we miss for certain diseases? What fraction of the month or school year is this?
Mental and emotional health	What does your community do to help those who are mentally or emotionally ill?	Knowing what to do, how to occupy our time through physical education, keeps us sound emotionally	How many persons can institutions take care of for the amount of money they have?
Safety education First aid	As transportation accommodations grew, so did the necessity for safety. Ex.—Cars instead of horses, busy cities, etc.	Inspect apparatus, use equipment properly, provide separate play areas	Learn to read graphs on number of accidents. Figure percentage of certain types of accidents
The health and dental examination	Diet of people in some countries makes them more likely to have strong teeth. Science's contribution to the care of the teeth	Health examination helps to show us the type of physical activity we may use without harm to our bodies	When there are two dental appointments a year, and one is on February 6, when should the next one be?
Alcohol, tobacco, drugs	How excessive use of alcohol affects family life. Laws that protect us from harmful drugs. Laws about the sale of tobacco to minors	Why athletes avoid the use of alcohol and tobacco	The cost of tobacco and how money could be spent to better advantage

EXAMPLE IV. — *Progression of Units Throughout the Grades*

For each of the units listed on pages 370-371 it will be necessary to plan the sequence and grade placement of content in schools where there are several grades. Effort must be made to avoid excessive duplication with its consequent loss of interest. A certain amount of repetition is necessary since many of the same problems occur each year, and children do not achieve habit formation in a given year. If teachers will work together in formulating their plans, the progression and development of a given unit throughout the six grades will be better attained. To approach the same unit by means of a new interest is more stimulating to pupils. The outlines which follow are suggestive of the type of planning which might be undertaken. These outlines are intended to be flexible and are not all-inclusive. Teachers are again reminded to develop units from the individual, family, and community point of view wherever such teaching is appropriate.

UNIT: GROWTH, NUTRITION, AND ELIMINATION

KINDERGARTEN	GRADE ONE	GRADE TWO	GRADE THREE
<i>Motivation:</i> Plant a small garden Pupil eats a good breakfast before coming to school Washes hands before eating Drinks plenty of water Learns to like pasteurized milk Is happy at mealtime If needed, eats mid-morning lunch at school Learns to clean his teeth after meals Plays outdoors daily Learns to rest or play quietly after eating Avoids excessive sweets between meals Learns to eat vegetables Is interested in growth of vegetables	<i>Motivation:</i> Study food habits of pets Pupil—Continues the practices of the preceding grade Learns to get up in time for a good breakfast Learns to eat and to like essential foods: milk, fruits, vegetables, wholegrain breads or cereals, eggs and meat Compares the food needs of pets and children Washes fruit before eating Buys fruits or milk with spending money Avoids excessive eating between meals Is interested in growing Has good manners when eating Takes more responsibility for care of teeth	<i>Motivation:</i> Study foods as a part of store project The Pupil — Continues the practices of the preceding grades Knows where our foods come from Knows why stores should be clean Knows how foods are kept cold Knows which foods help children to grow Learns to like foods that require chewing Cooperates with plans for the school lunch Knows that play and rest also help one to grow Helps plan wholesome food for school parties Helps care for the garden at home Cooperates with parents in eating food served for meals Helps keep streets free from papers used for ice cream, etc.	<i>Motivation:</i> Study food habits of Indians and other peoples The Pupil—Continues the practices of the preceding grades Compare food habits of Indians or other peoples with our food habits Appreciates the variety of food available to us Chooses to eat daily whole milk, vegetables, fruits, whole grains, eggs, meat Knows what constitutes a good breakfast Avoids the use of coffee and tea, or alcoholic drinks Knows the fruits, vegetables, and other foods that are obtained in the community Knows how milk is kept clean Knows why we should drink pasteurized milk Learns to eat foods that help to build strong teeth Learns to help set the table Likes to go to the grocery store with parents Appreciates good manners
GRADE FOUR	GRADE FIVE	GRADE SIX	
<i>Motivation:</i> Use interest in own growth records The Pupil—Continues the practices of the preceding grades Knows which foods help children grow Knows that rest and activity are also necessary for growth Is interested in record of own growth Chooses to eat a good lunch at school or at home If lunch is carried to school, eats sandwiches before sweets Avoids spending money on extra sweets Learns to eat foods that are necessary for growth Knows which foods give us vitamins and minerals Takes time to eat slowly Helps care for food in the home Learns how to choose foods for a balanced diet Learns how to plan a good breakfast and lunch Knows foods that help get rid of body wastes	<i>Motivation:</i> Study the problems of the school lunch The Pupil—Continues the practices of the preceding grades Observe and help to analyze problems of the school lunch and noon period Learns practices that aid digestion Learns, in simple form, what happens to food in the body Knows which foods contain vitamins Knows which foods contain minerals Knows which foods contain protein Knows which foods give us energy Learns to weigh himself and keep a record of his growth Knows why one should avoid tea, coffee, and alcoholic drinks Helps care for food in the home Helps wash the dishes in sanitary manner at home Observes how foods are cared for in clean stores Knows how wastes are eliminated from body	<i>Motivation:</i> Use white mice experiments The Pupil—Continues the practices of the preceding grades Studies the effects of balanced and deficient diets upon white mice Compares above experiments with humans Understands more about the digestive processes Understands more about the processes of elimination Studies more in detail the diet necessary for strong teeth Knows how bacteria and molds may affect food Studies some effects of food deficiencies, as rickets, anemia, night blindness Is interested in improving table manners Appreciates attractive environment for meals Knows why refrigeration is important Lack of refrigeration causes fermentation to take place, thus producing substances containing alcohol. The effect of 4% solution of ethyl alcohol on white mice Practices the habits that aid nutrition	

UNIT: SLEEP, REST, AND RELAXATION

KINDERGARTEN	GRADE ONE	GRADE TWO	GRADE THREE
<p>Goes to bed cheerfully</p> <p>Learns to sleep in the dark</p> <p>Learns to go to bed alone</p> <p>Is willing to relax and rest during the day</p> <p>Studies the sleep habits of pets</p> <p>Brushes teeth before going to bed</p> <p>Is willing to play quietly in the evening</p> <p>Likes to be clean when going to bed</p>	<p>Learns to go to bed at a regular hour</p> <p>Tries to go to sleep soon after he goes to bed</p> <p>Remembers to clean his teeth before going to bed</p> <p>Remembers to wash or bathe before going to bed</p> <p>Learns to hang up clothes</p> <p>Learns how to relax at school</p> <p>Knows the steps in getting ready for bed</p> <p>Avoids disturbing others who are resting</p> <p>Enjoys bedtime stories</p> <p>Learns that he should go to bed at 7:00 each night</p>	<p>Continues the practices and attitudes of the preceding grade</p> <p>Learns to get himself ready for bed</p> <p>Knows that sleeping room should be ventilated</p> <p>Learns to help care for clothes</p> <p>Learns to sleep with small or no pillow</p> <p>Knows that plenty of sleep helps one to grow</p> <p>Brushes teeth before going to bed</p> <p>Goes to bed willingly at a regular hour</p> <p>Learns that he should go to bed at 7:30 each night</p>	<p>Continues the practices of the preceding grades</p> <p>Studies the sleep habits of children of other lands</p> <p>Knows that he should go to bed at 8:00 each night</p> <p>Is willing to stay away from movies on school nights</p> <p>Avoids listening to exciting radio stories before going to bed</p> <p>Learns to read or to play quietly before going to bed</p> <p>Knows that sleep helps children to grow</p> <p>Knows that plenty of sleep helps one to enjoy work and play</p> <p>Likes to feel rested</p>
GRADE FOUR	GRADE FIVE	GRADE SIX	
<p>Continues the practices learned in the preceding grades</p> <p>Studies the sleep habits of babies in the home</p> <p>Knows that he should go to bed by 8:30 each night</p> <p>Knows that plenty of sleep helps one to do better in school</p> <p>Goes to bed at a regular hour each night</p> <p>Knows how and when to rest</p> <p>Avoids disturbing sleep and rest of the neighborhood at night</p> <p>Knows how many hours he should sleep at night</p> <p>Sleeps with windows open</p> <p>Keeps sleeping room neat and clean</p> <p>Knows that being tired is related to crossness</p> <p>Likes to relax or play quiet games before bedtime</p> <p>Takes responsibility for being clean before going to bed</p> <p>Avoids reading in bed</p> <p>Knows how to rest eyes</p>	<p>Continues the practices of the preceding grades</p> <p>Knows that lack of sleep causes fatigue and irritability</p> <p>Takes increased responsibility for care of clothes and own room</p> <p>Knows that sleep and rest aid one to think better</p> <p>Knows that plenty of sleep gives one strength for work and play</p> <p>Takes responsibility for rest and relaxation when necessary</p> <p>Helps take some responsibilities for sleep and rest hours of younger children in the family</p> <p>Avoids disturbing the sleep and rest of adults in the family or neighborhood</p> <p>Rests eyes in the evening</p> <p>Avoids attending the movies on school nights</p> <p>Goes to bed regularly at 9:00 on school nights</p>	<p>Continues the practices of the preceding grades</p> <p>Knows the effects of sleep on the nervous system</p> <p>Goes to bed regularly between 9:00 and 9:30 on school nights</p> <p>Plans day for alternate work, play, and rest</p> <p>Knows that the heart needs plenty of rest</p> <p>Avoids the use of tea, coffee, and alcoholic beverages</p> <p>Enjoys quiet activities at home after the evening meal on school nights</p> <p>Knows how sleep and rest affect one's personality</p> <p>Likes to care for own sleeping room</p> <p>Helps parents to have rest by taking some responsibilities for work</p> <p>Is not unduly fatigued by work at school</p>	

EXAMPLE V

Carrying Out a Morning Health Survey

Suggestions regarding the use of a Morning Health Survey as a means of detecting symptoms of communicable disease and illness, are extensively discussed in the section on Health Service.

A few recommendations for planning a survey, as a means of stimulating interest in health practices taught, follow:

1. Due precautions should be taken to avoid a situation in which it is easy for a child to say that he has carried out a health practice in order to gain approval or awards. It is best, then, to include checking on only those practices which a teacher can actually observe, such as clean hands, clean teeth, and combed hair.
2. Stars and other awards should be avoided. Teachers should seek to build satisfactions in the values of the practice itself.
3. Plan to have children improve their own record rather than compete with others.
4. Children in upper grades may make and keep their own records.
5. Plans in which children check each other need to be supervised with unusual care.
6. The methods of check need to be varied in order to avoid monotony.
7. Children should never be embarrassed if home conditions make it impossible to carry out health practices.
8. Try to improve conditions at school for making cleanliness possible, such as facilities and time for washing the hands.

EXAMPLE VI

Incidental Instruction for Re-enforcing Health Instruction

The alert teacher will utilize the many opportunities which occur for reminding children of health practices and attitudes. If possible, this should be done without mentioning the word "health." Some examples follow:

"John, if you would sit tall, perhaps you could read better."

"Mary, let us save your candy until after lunch."

"Catherine, if you would try to go to bed earlier, it might help you recover from your cold."

"Since all of us need to go out into the sunshine at recess period, let us try to find another time to finish our arithmetic."

"Henry, will you look at the thermometer to see whether the temperature is what it should be, and then try to adjust the ventilation."

Evaluation of the results of teaching

1. Teaching may be judged by

The results of health knowledge tests

The results of attitude tests

Observed improvement in health behavior, habits, and practices

Observed improvement in attitudes toward responsibilities for health

Reduction in absence due to illness

Reduction in accidents

Steady gains in growth

Correction of health handicaps

PHYSICAL EDUCATION

PHYSICAL EDUCATION¹ is a teaching process which provides opportunity for participation in a variety of activities through which are promoted normal growth and development, including mental development, skills, emotional expression and control, and understanding of individual and social relationships.

The Scope

Education in America has a responsibility, as have other great social institutions, to help boys and girls to live effectively in a democratic society. Such living implies the full development of all the individual's potentialities — physical, social, emotional, moral, spiritual, and mental. Physical education is that area of education which deals with the body in action or in movement and it contributes to the complete education of the individual through large-muscle activities and the associated knowledges, attitudes, appreciations, and undertakings.

Science, particularly biology and psychology, has demonstrated that the individual is a unity at all times, a unique living organism which grows at a velocity and in a rhythm peculiarly its own. This concept of the unity of the organism impels teachers to realize that mind and body cannot be separated. All learning takes place through the body and in that sense all education is body education. Of all the areas of education, physical education is significantly that area which deals constantly with the child in his most dynamic learning, as he moves, sees, feels, and thinks in situations of social and dynamic import. In this educative process teachers use as tools large-muscle experiences, such as play, games, rhythemics — experiences which are deeply rooted in the biological and cultural inheritance.

The experiences gained in solving the problems involved in organizing a free-play period, in playing a ball game, in creating a rhythmic composition, in mastering a stunt or in serving as a leader are valuable contributions to a well-rounded education. Obviously, the teacher should be concerned with the total learning situation, the attitude of the children toward each other, the human values which are stressed, the kind of physical environment, the psychological and emotional atmosphere;

consequently, related factors materially affect the kind of learning that goes on. Feelings of well-being, enjoyment of activity for itself, the sense of movement as an art, the maintenance of rhythm of activity and rest, the fun in play that is shared—these are the kinds of satisfactions boys and girls may find in the physical education program.

An effective program of physical education should develop within the children a deep respect for the human organism as a wonderful instrument, delicate, yet unbelievably strong and enduring if given the care and training it deserves, with marvelous powers to work, rest, play, relax, create, think, and do. It is the privilege of teachers to inspire pupils with the concept of what physical education as a way of living can mean throughout their lives.

Objectives

Physical education in the elementary school has the following general objectives:

1. Developing the organic systems of the body as a basis for physical fitness through activities definitely selected to increase strength, vigor, and functional capacity.
2. Inculcating health habits, not so much by giving knowledge as by providing ways and means for practice in wholesome living.
3. Developing physical abilities and psychomotor controls, by providing a wide, rich program of activities that demand and increase neuromuscular skills.
4. Generating among the girls and boys meaningful, vitalized, recreational habits and interests that may carry over into adult hobbies and avocations.
5. Definitely educating for behavior conditioned by the principles of good sportsmanship, thus building toward character and better citizenship.
6. The ability to enjoy rhythemics as a participant or spectator.
7. An appreciation and understanding of all other phases of the curriculum through integration which enriches the whole educational process.
8. Satisfaction and pleasure through the release of physical and emotional energy.

¹Definition of the Committee on Terminology, American Physical Education Association.

FACILITIES AND EQUIPMENT

Adequate facilities and equipment are essential for a program which embraces a wide range of activities, making possible attainment of the broader and richer experiences inherent in a varied program. The elementary schools have become more and more appreciative of the fact that children "learn by doing." This guiding principle should be accepted by the administrators, and equipment and supplies should be sufficient in quantity and variety to permit maximum instruction and mass participation.

Facilities

PLAYGROUND

Physical education activities should be carried on outdoors whenever possible; therefore, a playground is an absolute necessity. To facilitate better supervision and allow for its use without a great loss of time, it should be adjacent to or near the building. It should be large enough to assure safe and ample play space for all children in the school. There should be space for each grade, with areas for activities to meet the needs of both boys and girls.

CLASSROOM

In many elementary schools, the classroom is the only room available for indoor physical education. Movable seats are desirable in that they can be moved against the walls, thus allowing space for a greater variety of activities. On the other hand, stationary seats allow for many relays and rhythmic activities in line formation.

CORRIDOR

The corridor space in some buildings can be used to advantage for many rhythmic activities and for some simple games. However, corridors and hallways are not generally satisfactory. Their shape seldom adapts itself to game formations, and the noise from games is usually disturbing to other classes.

PLAYROOM

Some schools have a special activities room which can be used for physical education. This may be an extra classroom or an adequate, healthful, and sanitary basement room which is properly floored, lighted, and ventilated.

GYMNASIUM

Many new elementary schools are being provided with gymnasiums or gymnasium-auditoriums. Schools with such facilities will be able to offer a wider range of activities than schools handicapped by lack of indoor space.

SWIMMING POOL

Where pools are available, a varied program of aquatic activities should be sponsored.

Equipment

Equipment is necessary for the successful conduct of physical education. Care should be exercised to obtain that which is standard and desirable. Much of this equipment may be made at little cost if the school is unable to purchase it.

EQUIPMENT	SUPPLIES
Balance beam	Balloons for small children
Basketball equipment	Bats
Chinning bar	Beanbags
Climbing poles	Blocks
Deck tennis rings and nets	Boxing gloves
Graduated horizontal bar	Hand equipment
High-jumping standards	Horse shoes
Jumping pits	Indian clubs
Jumping ropes	Mat covers
Jungle gym	Mats
Paddle tennis equipment	Rubber balls of all kinds
Phonograph and records	Steel tape
Piano	Stop watches
Scales	Wands
Slides	Whistles
Soccer equipment	Etc.
Softball equipment	
Swings	
Teeter boards	
Volleyball equipment	
Etc.	

ORGANIZATION AND ADMINISTRATIVE PROCEDURES

Time Allotment

Physical education should have a recognized, definite place and time allotment in the daily program. It is strongly recommended that in each of the first six grades of the elementary school a minimum of forty minutes a day, exclusive of the recess periods and noon hour, be devoted to an instructional period in physical education.

Physical Education Periods

A well-organized instructional program should stimulate the initiative and imagination of the teacher and serve the natural interests and needs of the children.

REGULAR CLASS PERIOD

The instructional period as required by law should be programmed daily as one period coming either in the morning session or in the afternoon. The division of the allotted time into two periods destroys its usefulness as an instructional period. This is the period when new types of activity are taught and practiced.

RELIEF PERIODS

A relief period two minutes in length should be given when needed. The purpose of these relief activities is to counteract the ill effects of sitting long periods at school desks, to stimulate the vital organs, relieve fatigue, equalize and stimulate circulation, give posture changes, exercise the large-muscle groups, and give mental relaxation. Running in place, running around the room, running around the schoolhouse, mimetic exercises, short games, and story plays are well adapted to furnish relief.

SUPERVISED PLAY PERIODS

The periods before school, morning recess, noon, afternoon recess, and after school should be considered as physical education periods; they require constructive leadership and supervision by the teacher. They offer an opportunity to extend educational influences of the school into the play life of the child. Intramural athletics should be emphasized in these periods.

Directed Recess Period

The purpose of the recess in the middle of the forenoon and afternoon is to relieve the strain of the classroom by providing opportunity for big-muscle activity in the out-of-doors.

Recesses, weather permitting, should always be outdoors. The activities at that time should be so organized and directed that every child may have an opportunity for safe, vigorous play suitable to his age and physical condition.

Facilities and Equipment

Where facilities and equipment are limited, the physical education classes should be so arranged as to allow the use of the same equipment by more than one group.

Organization of Classes

The class itself should be organized so that the activities of each grade may be carried on with a minimum loss of time. This means, whenever pos-

sible, assignment should be made for a place in a line, circle, open order, team or squad. Divide the class into smaller groups to provide for greater participation. For efficient class administration, set up permanent groups, composed of squads or team units and containing not more than six pupils.

In the intermediate grades, if not earlier, the boys and girls should be separated for many of their activities. However, at times they should be brought together for recreation.

For the best results in teaching fundamentals of highly skilled activities, comparatively small classes with a maximum of forty pupils are advisable.

Classification

If all pupils in a given grade were alike, classification would be unnecessary. Pupils vary not only in their interests but in their basic needs, abilities, capacities, peculiarities, and backgrounds in physical education. Some pupils are handicapped structurally or functionally for physical education because of heredity, diseases, or accidents. Pupils of the same age vary in their anatomical and physiological maturity, and in their needs for bodily growth and development.

Classification of pupils in physical education is necessary to safeguard health, to insure safety, and to facilitate learning and teaching. This classifying of pupils is impracticable in many situations. The physical education teacher, therefore, should classify pupils within each physical education class.

Pupils should be grouped according to their physical similarities rather than according to administrative convenience.

After a pupil returns to school following an absence due to illness, care should be exercised against the danger of overexertion. A definitely modified program should be prescribed, ranging from complete rest to very light activity.

No pupil should be excused from the program because of a general organic or nervous weakness, or because of crippled condition, injury, or health hazard. All pupils whose physical condition indicates a needed adjustment should be assigned to some less vigorous form of activity until a change is recommended by school or family physician.

Teaching Suggestions

1. Choose activities, whenever possible, that relate to the season, weather, or the day. Bet-

ter results are achieved when activities are confined to their appropriate season.

2. Select activities which will furnish maximum participation by all. "The greatest good for the greatest number" is achieved not by a single activity, but by a flexible program affording experience in a well-balanced variety of challenging activities.
3. In making selection of activities consider space, equipment, and the number of pupils likely to participate.
4. Provide activities which are natural, spontaneous, and offering wholesome enjoyment. Then let the activity be its own reward.
5. A demonstration of an activity is far more helpful than an explanation.
6. Talk clearly and briefly when explaining an activity.
7. Before attempting to teach it, know it thoroughly, and complete all necessary preparations for an activity.
8. In introducing a new activity, name it, explain it briefly, put class in necessary formation to play it, demonstrate it, ask for questions, then start the activity.
9. When officiating in competitive games, make decisions courteously, promptly, and fairly.
10. Have definite reasons for teaching every activity, and keep in mind the objectives to be accomplished thereby.

Motivation

Achievement tests consisting of minimum standards and cumulative records in stunts, track and field events, strength, and skill activities are excellent devices for motivating and evaluating class instruction.

PROGRAM OF ACTIVITIES

Physical education, through its instructional activity program, should give pupils the opportunity for many meaningful experiences based on their needs, interests, and capacities. This requires that the activities be carefully graded so that progress may be easy and natural throughout the term and from grade to grade. These experiences should be broad in scope and each activity should be probed deeply for all its values in order that there may be both breadth and depth to the learning process.

The program for primary pupils should be simple in nature and provide a variety of activities. Games of low organization afford much big-muscle activity. Rhythmic activities are generally imitative and form a large portion of the program. Relays, stunts, apparatus, and self-testing activities should be introduced in the third and fourth grades. Dramatics and story plays are a natural expression for this age group.

The program of the intermediate grades includes a wide variety of activities. All general types of movements, such as walking, running, jumping, throwing, and climbing, are desirable. Stunts, apparatus, and self-testing activities for demonstration of individual skills are valuable. Team consciousness may begin to develop during the latter part of this period. Relays afford an excellent means of practicing game fundamentals.

Tactics (Marching and Running)

DESCRIPTION

It is suggested that tactics in some form be made a part of each lesson in all grades. The time spent on this phase of activity should be limited to a few minutes.

OBJECTIVES

1. To maneuver classes in an orderly manner.
Examples: Fire drills, parades.
2. To motivate good standing and walking posture.
3. To gain experience in responding to a command.
4. To learn directions.
Examples: Right, left, forward, backward.
5. To develop pupil leadership.

TEACHING SUGGESTIONS, INCLUDING SAFETY PRECAUTIONS

1. All commands should be sharp and clear.
2. Skills should be developed in natural sequence, for if much time is spent on drill the values are lost and children lose interest.
3. Beware of slippery floors.
4. Gradually develop endurance in running.
5. Permit no recklessness and carelessness.
6. Motivate classwork by variations in marching and running.
Examples: On toes, on heels, skipping, and hopping.

ACTIVITY CONTENT

1. Kindergarten and Primary Grades

a. *Marching or walking*

- (1) Good standing and walking position
Feet parallel and heels on same line
Knees straight without stiffness
Arms hanging naturally at sides
Head erect, chin in, and looking straight to the front
- (2) Walking only as a creative rhythmic activity—fast, slow, light, hearing, imitating animals, combined with other movements of the body, etc.
- (3) Walking as a creative activity
- (4) Marking time and halting in a front line

b. *Running*

- (1) Running as a creative activity
- (2) Follow the leader
- (3) Variations—legs straight, kick feet high in the rear, kick legs sideward, run in place, sideward, backward
- (4) Running combined with movements of various parts of the body (See Rhythmics)

2. Intermediate grades

a. *Marching*

- (1) Forward, backward, marching in place
- (2) Turns ($\frac{1}{2}$, $\frac{1}{4}$, $\frac{3}{4}$, and full)
- (3) To the rear
- (4) Alternate forward and backward
- (5) Alternate previously learned skills in quick succession, as forward, backward, $\frac{1}{2}$ turn, etc.

b. *Running*

- (1) Follow the leader with two flanks running at the same time
- (2) Upon signal, assume positions such as kneeling, lying, etc.
- (3) Upon signal, form twos, threes, or fours
- (4) Various leaping exercises, over lines, wands, etc.

Fundamental Body-Conditioning Exercises

DESCRIPTION

This phase of the physical education program has many titles, such as calisthenics, free exercises, set-

ting-up exercises, daily dozen, etc. Under the various titles the structure and form of exercises vary greatly. In view of the controversial nature of this activity as a part of the elementary school physical education program, this section is purposely brief and directed toward factors which should be considered in formulating an exercise program. However, exercise is essential for the maintenance of optimum health.

OBJECTIVES

1. To provide muscular activity serving the purpose of body-building, making supple and strengthening the muscles and vital organs, as well as developing skill, balance, and endurance.
2. To improve body mechanics.
3. To stimulate circulation, respiration, digestion, and elimination.
4. To stimulate growth and development.

TEACHING SUGGESTIONS, INCLUDING SAFETY PRECAUTIONS

1. Exercises should generally include vigorous local or whole-body muscular activity.
2. Exercises should be interesting.
3. They should be an integrated part of the physical education program.
4. Exercises should be varied. However, repetition of exercises is justifiable.
5. They should be progressively developed from grade to grade.
6. The value of exercise has certain lasting results on the efficiency of the body (training habits).
7. The limitations of the body must be considered in giving exercise. Refer to pupil's health record card.
8. The exercise should never be exhausting.

ACTIVITY CONTENT

Emphasize:

1. Exercises that are fundamental to good body mechanics.
2. Big-muscle activity.
3. Total body participation rather than isolated parts.
4. Bending and stretching exercises.
5. Swinging movements.
6. Rhythm.
7. Totality of movement.

Rhythmics

DESCRIPTION

The term "rhythmics" is used as an inclusive term to denote those activities which have to do with the dance in all forms acceptable to an educational program. Activities in rhythmics are an important phase of physical education. They afford opportunity for self-expression and are necessary for proficiency in sports, dances, and everyday activities. This activity is enjoyed by girls and boys at all age levels if the teaching is based on their needs and interests.

OBJECTIVES

The general objectives are to develop a strong, well-coordinated, flexible body; desirable social attitudes through group activity; appreciation of related arts through integration; experiences in creative effort; understanding of the people in other countries through their dances and customs; building up skills and appreciations for recreational purposes now and in later life; the ability to enjoy rhythmics as a participant or spectator; an appreciation and understanding of all other phases of the school curriculum through natural and purposeful integration which enriches subject matter and tends to make a unified whole of the educational process; satisfaction and pleasure through the release of physical and emotional energy. The aim is not to develop dancers but rather an attitude toward, and an appreciation of, the Dance Art through experiences that are vital and enjoyable in themselves. These objectives are achieved through the activities which make up the Rhythmic Program and the teaching process which includes:

1. Direct teaching (See page 364)
2. Integrated teaching (See page 364)
3. Incidental teaching (See page 364)
4. The creative approach to teaching

The creative approach is developed through the experiences of pupils at each grade level. This procedure results in subject matter fitting to the age or sex of the participants. The teacher motivates and guides the creative efforts of pupils to worthy and satisfying ends. Children must learn to evaluate their own efforts as well as those of their classmates through observation and discussion. This process of give and take stimulates interest, sincerity, and an ongoing desire for growth and improvement.

Teachers should not assume the attitude that the creative approach to teaching rhythmics, results of

necessity, in nebulous, superficial, or irrational procedures and ends. The results are just the opposite if the teacher understands how to guide the creative process to interesting, justifiable ends. The end results should not be judged by traditional standards but by their fitness to the present idea or theme. The creative approach may be applied to each of the categories of activity listed herewith, with the exception of folk dances.

KINDS OF ACTIVITIES

The following phases of a rhythmic program are listed as a convenience for teaching purposes. Each is in reality a unit representing one element of the whole. In a field as broad as rhythmics, it is necessary to approach the whole through its various elements. Each of these activities is, therefore, a means to an end which makes an important contribution to the total physical education program.

After even a limited experience, there becomes evident the direct relationship that exists between the eleven activities listed. Locomotor movements may be natural activities; folk themes may be derived from a folk rhythm; natural activities or traditional movements may grow out of a rhythm and so on.

1. Rhythms
 - a. Created by pupils or teachers
 - b. Selected from musical compositions
2. Singing games
 - a. Traditional
 - b. Created by pupils or teachers
3. Activities with ropes, balls, scarfs, balloons, and other supplementary aids. These may be teacher- and pupil-created or derived from other sources
4. Natural activities (mimetics)
5. Locomotor movements
 - a. Traditional
 - b. Mimetic
 - c. Created by pupils or teachers
6. Use of body and arms (axial movement)
 - a. Directed by the teacher
 - b. Created by pupils
7. Folk dances
 - a. American
 - b. Foreign
8. Folk themes
 - a. Class created
9. Studies and compositions
10. Social dance (ballroom)
11. Tap dance

BRIEF DESCRIPTION OF THE RHYTHMIC ACTIVITY

This is one approach to teaching rhythemics; it creates or selects a rhythm which is then translated into movement. Pupils at all grade levels enjoy this simple creative movement. A rhythm may consist of one or more measures of music; it may be an entire phrase of music; it may be created by pupils in one or more measures. In musical notation, a rhythm is represented by notes, rests, and such signs and words as *p*, *f*, *legato*, *retard*, etc. For instance, the rhythm of "My Country 'Tis of Thee" may be visualized by lines of different lengths in this manner:

Words: My Coun try 'Tis of Thee
Rhythm:

This same rhythm suggests movement, as does all rhythm, and that constitutes one phase of the creative approach to teaching rhythemics. This is important because movement and rhythm are inseparable. A first-grade child would probably translate the foregoing rhythm into abstract movement somewhat as follows:

Movement: Step Step Step Step and hold Quick Step
Rhythm:

In a higher grade, the movement pattern, if created by the pupil, would take an entirely different form. In this manner, it becomes evident how the subject matter adjusts itself to the level of the grade through the creative approach to teaching.

As indicated previously, the rhythm may be translated into more than a series of abstract locomotor movements; it may result in natural activities or even dramatic incidents. The above rhythm may become four slow and deliberate steps, a pause to determine the danger, a fearful withdrawal. Body and arm movements (axial movements) may be added to the locomotor movement, etc. This procedure should also be reversed by beginning with the movement and then determining its rhythm. The same may be done with a dramatic idea.

Briefly, this approach is based on the idea that all movement—athletic, stunt, game, work, dance (abstract or dramatic), has rhythm and is, therefore, basic in the teaching and learning process.

SPECIAL VALUES OF THE RHYTHM APPROACH

1. Learn to feel rhythm and enjoy the beauty of movement responses. Experience the relationship of rhythm to movement. Develop a strong, well-coordinated supple body through movement responses to rhythms.

TEACHING SUGGESTIONS

1. Relate all rhythmic categories to teaching rhythms when they fit naturally.
2. Proceed from rhythm to movement but also from abstract or dramatic movement to its underlying rhythm.
3. Rhythms with notes of the same value are easiest. Decreasing the value of notes, adding rests and accents, or dotted note values, increases the difficulty of the rhythm and its resulting movement. It is wise, therefore, to proceed from one change in the structure of a measure to more changes only as the class evidences its readiness.
4. Suggest creating and combining body and arm movements (axial movements) with locomotor movements as locomotor skills are developed.
5. Relate all rhythmic teaching to other school subjects.

To teach rhythemics an accompaniment is required. This may be

- a. Singing, chanting, drumming, speaking
- b. Piano or other musical instrument
- c. Percussion: Tom-tom, triangle, blocks, etc.
- d. Phonograph (speed-controlled electric preferred)

ACTIVITY CONTENT

A. RHYTHMS

To understand the rhythmic approach to teaching and creating movement one should know the basic principles of rhythm. The following will explain some of these basic principles and how they may be visualized through the use of different line lengths.

To visualize rhythm the following words and symbols will be used for clarifying purposes:

1. *Time or meter*: Indicated by time signatures as: $\frac{2}{4}$ — $\frac{6}{8}$ — $\frac{9}{8}$, etc.
2. Note, rest, and accent values will be visualized as follows:

$\frac{1}{8}$ note ———
 $\frac{1}{4}$ note ———
 $\frac{1}{2}$ note ———
Whole note ———

Accent ———

Rest A rest is visualized thus (); it must be given equal value to the note it represents.

Note: The above symbols will be used in place of notes to denote their value in simple form.

3. *Underlying count*: This is the basic note value of a measure of music in a given signature as:

2/4 time: means each measure is made up of two 1/4 notes or their equivalent and there are two beats to a measure.

3/4 time: means each measure is made up of three 1/4 notes or their equivalent and there are three beats to a measure.

9/8 time: means each measure is made up of nine 1/8 notes or their equivalent and there are nine beats to a measure.

The above will be visualized as follows:

2/4	1	2							
3/4	1	2	3						
9/8	1	2	3	4	5	6	7	8	9

4. *Rhythm*: The underlying count previously explained may be broken up so that the rhythmic feel of the measure differs from that of the underlying count though the count itself and the value of each count remain the same.

This will be visualized as follows:

Example 1—

Underlying count:	1	2	3
Rhythm:	1	2	3

Accenting the first note marks the beginning of a measure and gives it a rhythmic quality.

Example 2—

Underlying count:	1	2	3
Rhythm:	1	2	3

In this example the first quarter note has become two accented eighth notes; this changes its rhythmic feeling entirely.

Example 3—

Underlying count:	1	2	3
Rhythm:	1	2	()

In this rhythm the first count is accented, the second becomes two eighth notes, and the third a rest; this again changes the rhythmic feeling of the measure entirely, though the underlying three counts remain the same.

Example 4—

Underlying count:	1	2	3
Rhythm:	1	2	3

Here the two quarter notes have been tied together and made into a half note thus— giving it the value of two counts in which the movement may be held two counts.

It becomes evident from the above that notes may be divided into smaller units; they may be combined or eliminated. This procedure makes pos-

sible the endless variety of rhythms heard in musical compositions. This rhythmic quality affects movement in the same manner that it affects sound.

5. *Movement*: This means the movement of any or all parts of the body brought into being as a result of listening to a rhythm, but it may in reality be any kind of movement pattern that fits the rhythm. For our purpose, it is indicated by such simple terms as *stamp*, *step*, or *hold*.

Elements of rhythm are visualized and explained on the basis of previously described symbols with suggested movements to accompany the rhythm.

a. *Accent*: Emphasis on certain beats which may be indicated by a stronger, broader or accented movement. Example—in 3/4 time: *Stamp, step, step*; in 4/4 time: *stamp, step, step, step* or *stamp, stamp, step, step* or *leap, step, step, step*, etc.

Accents visualized with suggestions for movement:

Time: 4/4				
Rhythm with accent:	1	2	3	4
Movement:	Stamp	Step	Step	Step
Time: 4/4				
Rhythm with accent:	1	2	3	4
Movement:	Stamp	Stamp	Step	Step

b. *Tempo*: Rate of speed at which music is played to suggest slow walk, fast walk, run, gradually faster, etc.

c. *Time or meter*: The value of a measure is expressed by a fraction, such as: 2/4—3/4—6/8—5/4—9/8, etc. The numerator indicates the number of beats to a measure, the denominator indicates the value of each beat. The accent on the first beat marks the beginning of a measure. 2/4 time with two 1/4 notes to a measure might indicate stamp and step to each measure; 6/8 with six 1/8 notes to a measure might indicate six running steps to a measure accenting the first count, etc.

Examples visualized:

Time: 2/4						
Underlying count:	1	2				
Rhythm with accent:	1	2				
Movement:	Stamp	Step				
Time: 6/8						
Underlying count:	1	2	3	4	5	6
Rhythm with accent:	1	2	3	4	5	6
Movement:	Stamp	Step	Step	Stamp	Step	Step

Time: 9/8

Under-

lying

count:

1 2 3 4 5 6 7 8 9

Rhythm

with

accent:

Move-

ment: Stamp Step Step Stamp Step Step Stamp Step Step

- d. *Note values:* Whole notes, half notes, quarter notes, and how they may be visualized. These might indicate slower or faster movements or various dramatic reactions.

Time: 4/4

Under-

lying

count:

1 2 3 4

Four 1/4

notes:

Two 1/2

notes:

One whole

note:

- e. *Rests:* Equal in value to notes and suggesting movements held or sustained as in the sound of a note. A rest is visualized thus ().

Examples visualized:

Time: 4/4

Under-

lying

count:

1 2 3

Rhythm

with

three

1/4 notes

and a

1/4 rest: () () () ()

Move-

ment: Stamp Step Step Hold

A few examples of simple variations:

Stamp	()	Step	()
Stamp	Hold	Step	Hold
Stamp	()	()	()
Stamp	Hold	Hold	Step
Stamp	()	Step, Step	Step, Step

- f. *Phrases:* One or more measures grouped together to form a larger unit very much as words are used to make a sentence. In rhythmic, a series of movements may complete a thought just as when words are put together to make a sentence and express a thought. It may be abstract movement or a dramatic thought.

B. SINGING GAMES

DESCRIPTION

Singing games include the traditional song plays and the dramatizations of nursery rhymes and stories set to music. When created by the class, singing

games may be entirely original or based on songs known to the children. Songs from music books may lend themselves to this purpose.

ACTIVITY CONTENT

1. Kindergarten

Traditional singing games—"Farmer in the Dell," etc.

Class-created games

Games from books

Etc.

2. First Grade

Class-created games based

On songs in music book

On other school subjects

On experiences outside the school

Traditional singing games

"Did You Ever See a Lassie?"

"Round We Go"

Etc.

3. Second Grade

Class-created games

Traditional games

"Jolly is the Miller"

"Muffin Man"

Etc.

4. Third Grade

Class-created games

Traditional games

"Carousel"

"I See You"

Etc.

5. *Intermediate Grades—Four, Five, and Six—* Singing games in intermediate grades should be played only if children enjoy them. Otherwise, folk dancing should be substituted. Certain American play and party games may be taught:

"Captain Jinks"

"Pop Goes the Weasel"

Etc.

C. ACTIVITIES WITH SUPPLEMENTARY AIDS

DESCRIPTION

These activities need no explanation for the movements and skills grow out of manipulating the object.

TEACHING SUGGESTIONS RE SUCH ACTIVITIES

1. Teacher-pupil created or from other sources.
2. Keep activity fairly simple.

3. The reaction of the majority of children in class is the criterion through which suitability may be judged.
4. It must be remembered that during play, children at various ages may bounce and catch a ball or toss a balloon, but doing it to certain rhythms adds considerable difficulty to the skill.

ACTIVITY CONTENT

1. Kindergarten to Sixth Grade inclusive
Activities with ropes, balls, scarfs, balloons, etc.

D. NATURAL ACTIVITIES

(mimetics — improvisations — story plays)

DESCRIPTION

These are activities which grow out of our living experiences in the past as well as the present. They include myths, reality, moods, things, the elements, the animal kingdom, and any other source that stimulates the imagination and lends itself to rhythmic interpretation. In the intermediate grades, mimetics lend themselves to athletic and game actions.

TEACHING SUGGESTIONS

1. While the teacher may make suggestions, it is best to allow children to present their own idea of movement forms which may represent either pure imitation or creative effort and may be guided by the teacher.
2. In activities of this kind, the rhythm naturally grows out of the movement, and should at times be isolated to further the development of an awareness of rhythm.
3. Children should be permitted to discover and clap the rhythm of movement, if necessary, with the aid of the teacher. In the beginning, children will develop individual mimetic ideas but gradually they may be worked together to tell a story.

ACTIVITY CONTENT

1. Primary Grades
 - a. *Kindergarten*
 - Birds
 - Rain
 - Improvisation to rhythms or phrases of music
 - Etc.

b. *First Grade*

Giants
Farm animals
Picking apples
Policeman
Improvisation
Etc.

c. *Second Grade*

Merry-Go-Round
Throwing at targets
Clowns
Acrobats
(The above plus other ideas may be developed into a circus.)
Etc.

d. *Third Grade*

Pull up the anchor
Hoist the sail
Row a boat
Captain of the boat
(Dance of the sailor may grow out of the above)
Kangaroo
Wind
Etc.

2. Intermediate Grades—While natural activities as indicated in previous grades may be continued, they tend to develop as studies and compositions for specific purposes, such as demonstrations, operettas, auditorium periods, etc. In these grades the activity is more apt to develop from the whole to its parts, as follows:

The seasons—snowflakes, winter, etc.
The elements—fire, water, storm, etc.
Halloween—pumpkins, witches, etc.
Christmas—toys, elves, etc.
The playground—seesaw, balls, etc.
Vacation incidents—swimming, skating, etc.
Folk themes—variations on the originals
Interpretations of the moods and ideas expressed in musical composition
Conflict, sorrow, waltz, round, etc.
“The Owl and the Pussy Cat”
Etc.

E. LOCOMOTOR MOVEMENTS

DESCRIPTION

These include all movements of locomotion on and through space and may be:

1. Natural movements which are the walk, run, leap, hop, jump, crawl, natural movements of locomotion (see natural activities), etc.

2. Traditional movements which are change step, polka, step hop, waltz, etc.
3. Class-created movements which are in reality variations of the above but grow out of the imaginative efforts of children in response to a need.
4. Any locomotor movements created to meet a specific need, as to walk like a clown, a child in a hurry, or a prince; to leap like a giant, a dwarf or an imp; to hop awkwardly as though in pain or tripping.

ACTIVITY CONTENT

1. Kindergarten and Primary Grades
 - a. *Natural movements*—
Walk, run, skip, rabbit hop, etc.
 - b. *Class-created movements*—
How does a pony gallop?
How does a robin move on the ground?
How does a bird fly?
Integrate with other school subjects, etc.
2. Intermediate Grades—
 - a. *Traditional movements*—
Two step (change step)
Step hop
Etc.
 - b. *Natural movements*—
Review and develop more highly the movements of previous grade
 - c. *Combined movements*—
Three steps forward and jump
Two steps forward and hop twice
Etc.
 - d. *Class-created movements*—
Who are some of the characters in a circus?
How would they move?
Integrate with other school subjects, etc.

F. AXIAL MOVEMENTS

DESCRIPTION

This is movement in space on a fixed base as contrasted with locomotor movement, which is movement through space (with a moving base). Axial movement consists of moving, turning, bending, and twisting any part of the body, while in a standing, kneeling, sitting or other fixed position. As the body moves on and through space, it creates designs and expresses through movement the abstract or dramatic ideas of the creator.

OBJECTIVES

1. To learn the part axial movements play in the total rhythmic effort
2. To develop strength, skill, speed, and endurance
3. To develop accurate responses to rhythms
4. To develop a working knowledge of space, direction, and design
5. To develop balance and control, etc.

TEACHING SUGGESTIONS

This phase of rhythemics should be started in the kindergarten and carried through all six grades.

ACTIVITY CONTENT

1. The activities through which the objectives may be realized consist of such movements of the arms, legs, and body as:
 - Swing in all directions
 - Circle in all directions
 - Extension in all directions
 - Flexions in all directions
 - Bending in all directions
 - Swaying in all directions
 - Whirling in all directions
 - Etc.
2. The above movements may be slow, medium, fast, sustained, strong, staccato, retarded, accelerated, crescendo, etc.
3. The above movements may be combined with locomotor movements to train the body to function as a unit. This totality of movement may express abstract or dramatic ideas depending on what is desired.

Examples:

- a. Walk and swing the arms in opposition—abstract movement
- b. In four counts walk forward four steps slowly, raising the arms high in front, palms upward, the head and chest high; hold, and lower the arms in four counts—dramatic movement (Pleading)
- c. Run forward with the arms sideward; during the first four counts bend right sideward; during the next four, bend left sideward—abstract movement
- d. Stand on the left foot while swinging the right leg in a circle forward, sideward, backward and down—abstract movement, to make the hip joint supple or develop balance and control
Etc.

4. Integrate this phase of rhythmic teaching with other school subjects when the integration may be natural—for example, with music, poetry, art, literature.

Examples—songs in $\frac{2}{4}$ or $\frac{3}{4}$ time, etc.; songs expressing moods; stories which deal with emotional experiences and characters of various descriptions; social studies which deal with fisheries, lumberjacks, sailors, etc.

5. Experiment with couples, threes, fours, and larger groups, using movements developed in this phase of rhythmic instruction.

Examples:

- a. Twos may join right hand or both hands facing each other, behind one another, etc.
- b. Threes may be in a line all facing the same direction, one or more facing opposite, in a circle, in a small or large triangle, etc.
- c. Larger groups may be in a line, two or three lines, one or more circles, an irregular group or combinations of any two or three of these, etc.

G. FOLK DANCES

DESCRIPTION

Folk dances have been handed down to us from generation to generation in this and other countries. These dances, set to tuneful melodies, are vigorous and simple; they stimulate action and afford the children much pleasure.

They are a means through which we can learn to enjoy, appreciate, and understand the folk culture of other peoples. They are friendly, social experiences that make us feel a kinship to folk near by or far away, whether in the present or in the dim past.

ACTIVITY CONTENT

1. Primary Grades

- a. *First Grade*—Simple singing games which are a form of folk dance, may take the place of actual folk dances which are often too difficult in kindergarten, first, and second grades.
- b. *Second Grade*—
“Chimes of Dunkirk”
“Pop Goes the Weasel”
Etc.
- c. *Third Grade*—
“German Hopping Dance”
“Hop, Mother Annika”
“Old Dan Tucker”
Etc.

2. Intermediate Grades

a. *Fourth Grade*—

“Seven Jumps”
“Cshebogar”
“Jump Jim Grow”
“Sicilian Circle”
Etc.

b. *Fifth Grade*

“Strazak”
“Sweet Kate”
“Virginia Reel”
Etc.

c. *Sixth Grade*—

“Crested Hen”
“Ribbon Dance”
“Take a Little Peet”
Etc.

H. FOLK THEMES

DESCRIPTION

Folk dances lend themselves to an interesting rhythmic creative experience which stimulates the children to exercise their keen observation and powers of perception as they participate in folk dances. Through discussion and participation, they create a dance which expresses their concept of the music and spirit of a particular nation. The composition thus created may be done to the music of a dance previously learned or another folk song of that nation. Satisfying results are obtained in the intermediate grades.

I. STUDIES AND COMPOSITIONS

DESCRIPTION

A study is a short series of movements based on any of the endless variety of ideas which grow out of teaching rhythmic. It is designed to give experiences gained through previously described rhythmic activities. They may be developed at all grade levels. Examples:

1. Study in direction (16 counts in $\frac{2}{4}$ time). Walk forward 4 steps (4 cts.), step left sideward and close (2 cts.), repeat to the right (2 cts.), walk four steps backwards (4 cts.), jump 4 times with a whole turn right (4 cts.). This involves four directions—forward, sideward, backward, and turning; a more simple study might require only two directions.
2. With appropriate changes in the character of the movements I-1, (above) may result in a study based on dolls, Raggedy Ann, Sailor, Wooden Soldiers, etc.

3. Study in crescendos (16 counts $\frac{1}{4}$ time) 2 slow steps forward (4 cts.), 4 steps forward (4 cts.), run forward taking 2 steps to each count (4 cts.), step forward and leap (4 cts.)
4. I-3, (above) may become a simple group study if 10 pupils are arranged in a group and the movement is repeated first by a single individual, then by three, and again by six pupils.
5. Nursery rhyme characters, such as Tom, Tom, the Piper's Son; Jack Be Nimble; Mistress Mary; etc.

A composition is a complete dance which differs from a study in that it deals in greater detail with the desired theme or idea. It may be compared with a musical composition, though a dance composition deals with movement and the human body rather than with sound and a musical instrument. It is the inevitable end of rhythmic study, for it grows out of all the other developmental activities. Compositions may include one or more individuals, and may be introduced above the third grade, though this depends a great deal on the progress made in the primary grades.

Examples:

1. The development of a Cinderella composition
2. Ideas that grow out of other school subjects, as Indians, poems, etc.
3. Ideas that grow out of needs in operettas or pupil-created musical plays.
4. Ideas that grow out of school and community experiences, as traffic, in the lunchroom, my girl friend and I, in the gymnasium, etc.

J. SOCIAL DANCE

DESCRIPTION

Social dancing plays an important part, at some time or another, in the social life of the majority of individuals. It is learned most easily in its elementary stages at about the fifth or sixth grade. It is a good idea to proceed from American Country Dance to Social Dancing as an aid in developing favorable attitudes on the part of the boys.

OBJECTIVES

1. To learn simple popular dances
2. To teach dance etiquette
3. To develop the attitudes that make for natural boy and girl relationships, etc.

TEACHING SUGGESTIONS

1. Discuss the place of ballroom dancing in society. Explain leading and following

2. Give consideration to the type of community and the kind of reaction that may be expected
3. It may be wise to discuss the idea with the Parent-Teacher Association, particularly if the class is conducted after school
4. It is a good idea to have as many boys as girls if that is possible
5. Boys and girls may react more favorably if they come to class knowing how to keep time, walk forward, backward and sideward, with ease and relaxation; how to do a two-step, etc.

ACTIVITY CONTENT

Social dancing experiences may include—

1. Discussion to discover what the boys and girls know and think about social dancing
2. Learning ballroom manners, such as how to sit, who asks for the dance and how, what to do and say when the dance is finished, the dance position, etc.
3. Learning simple popular dances, as the fox trot, two-step, waltz, etc.

K. TAP DANCE

DESCRIPTION

Tap dancing is enjoyed by most children. The rhythmic sound made by the taps, the stunt-like nature of the steps, and the fact that the elementary steps are not too hard to learn—all give a feeling of quick achievement which stimulates interest in the activity. Tap dancing may begin in the third grade if the class has a rich background of varied physical education experiences.

OBJECTIVES

1. To teach relaxation, balance, and control
2. To teach accurate rhythmic responses
3. To develop strength, skill, and endurance

TEACHING SUGGESTIONS

1. There are certain basic steps that should be learned before attempting this type of dancing
2. It is also helpful to learn the terms applied to these steps
3. The sounds are made by the ball of the foot as it brushes or taps the floor
4. Teach the basic movements thoroughly
5. Allow the children to create tap combinations
6. A shuffle usually starts with the foot in the back

7. Encourage relaxation
8. After the fundamental basic steps have been learned, the pupils are given the creative experience of combining tap-dance movements in such characterizations as: country dance, rag doll, military, sailor, comic strip characters, etc.

ACTIVITY CONTENT

1. Elementary steps
 - a. *Tap*. Striking the floor with a downward motion of the ball of the foot. The motion is done as though kicking the toe into hard snow. It may be done with or without transfer of weight.
 - b. *Variations of the tap*. Instead of the ball of the foot, any other part of the foot may strike the floor.
 - c. *Shuffle*. The lower leg is relaxed and the foot dangles as it swings forward and back a little to the side of the standing foot, and hits the floor sharply. This makes two sounds, one on the front swing and one on the back swing. It always starts with a forward brush.
 - d. *Variations of the shuffle*. Making more than two sounds by adding one or two brushes on the floor. Four sounds take two shuffles, six sounds take three shuffles, etc. If an uneven number of brushes is made, the foot of course will finish in front.
 - e. *Shuffle tap*. This combines a shuffle and tap with a shift of the weight. It makes three sounds and is counted "1 and 2." The shuffle comes on "1 and," the tap on "2." The step is now repeated with the other foot and continued on alternating feet.
 - f. *The music*. Jig tunes or popular songs may be used. One measure of music in $\frac{3}{4}$ time may be counted as follows:

"1-2-3-4" or
 "1 and 2 and 3 and 4 and" (This encourages more taps) or
 "a 1-and a 2-and a 3-and a 4-and"
 (This demands very fast tapping)
 - g. *Tap patterns*. Various rhythmic arrangements of these counts suggest tap patterns, such as:

1-2 shuffle
 3-4 shuffle
 1-2 shuffle
 3-4 tap, tap (shifting weight)

To do the above pattern in faster count—
 1 and—shuffle
 2 and—shuffle
 3 and—shuffle
 a 4 —tap, tap
 and a 1—shuffle tap
 and a 2—shuffle tap
 and a 3—shuffle tap
 and —hold
 a 4 —tap, tap (shifting weight)

- h. *Combining movements*—Any natural or traditional movement or stunt may be combined with tap movements. For example:

1 and 2—shuffle tap
 3 and 4—shuffle tap
 1-2-3—jump, jump, jump
 4—hold

The last four counts in the above may be hops, slides, forward roll, high kicks, slow running steps or leaps, etc.

Self-Testing Activities

DESCRIPTION

This phase of physical education includes strength tests, game skills, track and field events, apparatus, original tests, and many variations of traditional activities.

OBJECTIVES

Each pupil may test his own ability and progress in the prescribed program on the basis of previous achievements, or on the basis of his own achievements in relation to standard norms.

TEACHING SUGGESTIONS, INCLUDING SAFETY PRECAUTIONS

1. These activities should begin with simple game forms in the primary grades and continue through all six grades.
2. Teaching of the more difficult skills should begin in the third grade.
3. Squad work is one of the best methods for teaching self-testing activities.
4. Each pupil should be motivated by keeping a personal cumulative physical education achievement record card.
5. Activities should be adapted to the age and development of the pupil.
6. Organize the group or squad work to eliminate hazards due to nearness of other activities.
7. Caution over-ambitious pupils.

ACTIVITY CONTENT

1. Primary Grades

- a. *Kindergarten and First Grade*—Simple games, natural activities, and rhythmic activities will introduce such activities as leaping, hopping, running, catching a ball, throwing, including chasing and dodging games, leaping the brook, sense-training games, races, etc.
- b. *Second Grade*—Similar to Kindergarten and First Grade, differing only in the skill involved in the event. Distances are increased, increased skill and control are required, keener judgments and discriminations are called for. Activities that may be mentioned are: circle call ball, relays that include skills, throwing at targets, jumping rope, toss ball, etc.
- c. *Third Grade*—Same as for previous grades, but again a gradual progression in the challenges offered. Introduce squad activities. Present certain definite events as self-testing activities, such as: head jump, throwing a ball against a wall, short potato race, etc.

2. Intermediate Grades

- a. *Fourth Grade*—Carry on with progressively developed activities of previous grades. Add such activities as: softball "lead-up" games and variations of running and jumping events, foul shooting with smaller balls and lowered baskets, etc.
Begin to record on an individual achievement card all self-testing activities, such as chinning, short dashes, target throw, potato race, etc.
- b. *Fifth and Sixth Grades*—Same as previous grades but all skills should be more highly developed. Remove some of the simplifications of modified team games; apply skills of lead-up games to the required demand of the highly organized team games; include all track and field activities permitted by facilities, but be cautious of endurance events and dangerous activities, such as hurdles, pole vaults, and distance runs.

Stunts, Tumbling, and Pyramid Building

DESCRIPTION

These might well be listed with self-testing activities. They are presented separately for convenience since they differ in nature from game skills,

strength, or track and field activities. The activities may be taught and practiced in all grades when properly adapted to the ability of the pupils.

OBJECTIVES

1. Development of strength and skill.
2. Valuable experiences in self-control, courage, stick-to-itiveness.

TEACHING SUGGESTIONS, INCLUDING SAFETY PRECAUTIONS

1. Teach the entire class how to do a single stunt.
2. Teach more difficult stunts only to those who have developed the necessary strength and skill.
3. Provide opportunities to practice stunts in squad periods.
4. Student leaders should be trained to give assistance.
5. Be in a position to give assistance to all pupils, especially in learning a new stunt.
6. A mat should be used when any part of the body except the feet touches the floor.
7. Prevent mats from slipping or separating.

ACTIVITY CONTENT

1. Primary Grades—In the kindergarten and first two grades, stunts are apt to be and should take the form of certain natural or mimetic activities. In later grades stunts should be classified in four or more tests ranging from beginning to advanced stunts.
 - a. *Kindergarten, First and Second Grades*—Rabbit hop, hobby horse, duck walk, jumping jack, log roll, etc.
 - b. *Third Grade*—While some of the stunts in this grade are closely related to natural activities, simple stunts become a definite part of this activity. Elephant amble, tailor seat, human rocker, posture squat, forward roll, etc.
2. Intermediate Grades
 - a. *Fourth Grade*—Human ball, fish-hawk dive, wrestler's bridge, knee snap, etc.; encourage stunt combinations
 - b. *Fifth Grade*—Tug-up, jack knife, human knot, simple squat, etc.; encourage stunt combinations
 - c. *Sixth Grade*—Rear vault, crane dive, bear dance, neck-shoulder stand, etc.; encourage stunt combinations

Head stand, heel knock, head spring, jump stick, hand balance, hand spring, etc.; encourage stunt combinations

Apparatus

DESCRIPTION

Apparatus exercises may properly be included in a well-rounded physical education program. When properly limited to the nature of stunt exercises, apparatus may be useful in attaining educational objectives. Apparatus which may be used includes jungle gym, swings, teeters, balance beam, chinning bar, climbing poles and ropes, rings, low horizontal bar, boom, and stall bars.

OBJECTIVES

1. Courage, strength, leadership, followership, balance and control
2. Appreciation of physical laws
3. Enjoyment of activities, self-confidence
4. Appreciation of rhythm

TEACHING SUGGESTIONS, INCLUDING SAFETY PRECAUTIONS

1. Adapt activity to needs, interests, and abilities of the class
2. Show progression in activities
3. Utilize student leadership
4. Supervise closely
5. Take precautions against accident
6. Teach the proper use of each piece of apparatus
7. Hanging and swinging activities should be avoided for girls, especially in the fifth and sixth grades
8. Inspect apparatus frequently
9. Eliminate exercises that are extremely hazardous

ACTIVITY CONTENT

1. Kindergarten, First and Second Grades—Jungle gym, swings, and teeters used in supervised play
2. Third Grade
 - a. Balance beam—Simple activities, such as walking forward, backward and sideward; walk forward to the middle, stand on one foot, the other held in various positions and hold, then walk forward to the end

- b. Chinning bar, at a height just beyond the reach of the child
 - Hang on the bar
 - Hang sideward, taking short steps with the hands
 - Raise left and right knee in alternation
 - Etc.

- c. Climbing poles
 - Hang in various positions
 - Short swing in the climbing position
 - Etc.

3. Fourth, Fifth, and Sixth Grades

- a. Balance beam—Increase the difficulty of the mode of travel, as slides, two step; increase the difficulty of the activity in the center, as deep knee-bend, one leg back of the body, forward swing the leg freely in various directions, etc.
- b. Chinning bar, Swedish boom—Knee-raising, leg-swinging, travel backward and forward hand over head, travel with the knees raised, chinning, combine chinning and knee-raising, etc.
- c. Climbing poles and ropes, and rings—Climbing, gradually increasing the height of the swing as strength of the grip is developed. If there are two adjacent poles, grasp one in each hand and jump to a climbing position on one pole, short swings on two poles, etc.

Games and Athletic Activities

DESCRIPTION

These activities are determined by the needs, interests, and abilities of pupils at each age level and may include the following:

1. Games of Low Organization. These are simple games which may be quickly organized and played by a large group. There are few rules. The skills are simple and involve individual competition rather than team play.
2. Games of High Organization (competitive athletics). Games which have many rules, require much individual skill, complicated team play, larger playing area, and often a great deal of expensive equipment. However, all these factors vary, for example, volleyball and basketball, both of which are highly organized games but differ markedly in their physical requirements.
3. Lead-up games. Games which are used to teach the skills of highly organized games in

an interesting manner. Examples are soccer—dribble, relay and dodge ball games to teach and practice passing, dodging, and team play, etc.

4. Modified team games. These games employ many of the elements of highly organized team games and in that sense are also lead-up games. They require less space and equipment and offer opportunity for a greater number of participants. Examples are modification of volleyball, basketball, etc.
5. Antagonistics or combative activities. As the name implies, these games are individual challenges of strength, skill, and endurance, such as: hand wrestling, pull over, Indian wrestling, and French wrestling. However, games of this type may also become team games, for instance, pull over and tug of war. In the former, individuals join hands and attempt to pull each other over a line, while in the latter, teams attempt to do the same thing.
6. Supervised play. The teacher supervises the play which is free in nature. Advice is given when it is asked for or when the rules of fair play or safety are being ignored.
7. Directed play. The teacher participates more fully by suggesting and teaching appropriate games.
8. Classroom games. Because they require a limited amount of activity and space, these games can be played in the classroom, and they are suitable for various recreational activities.

OBJECTIVES

1. They satisfy a primal need for physical activity
2. They provide communal association with one's fellows
3. They yield identification of self with other people
4. They are objective in action
5. They promote skill and interest for leisure time activities
6. They develop good sportsmanship
7. They provide opportunity for full exercise of self-control, self-reliance, perseverance, courage, and initiative
8. They provide activity that will develop fundamental skills and help obtain educational objectives

TEACHING SUGGESTIONS, INCLUDING SAFETY PRECAUTIONS

1. The explanation of each game should be made while the class is in the game formation. It should be clear, concise, and in language appropriate to the age group
2. Games may be modified to fit the ability of the group, playing area, and equipment
3. A game may be kept interesting and alive over a period of time by changing the medium of locomotion, as running, skipping, galloping, hopping, etc.
4. Changing a circle game to lines or other formations adds interest
5. Play a game as long as interest is maintained
6. Arrange competing teams so that they are nearly equal in strength and skill
7. Playing running games without tennis shoes is hazardous on slippery floors

ACTIVITY CONTENT

1. Kindergarten and Primary Grades—Games of low organization stress the imaginative and the dramatic through such elements as hunting, chasing, catching, and fleeing. Since the growing child's span of attention is short, the same game should not be played too long. The reaction of the majority of the children should be the guiding factor. The following low organization games may be played in:

a. Kindergarten:

Supervised play

Directed play

Play on apparatus such as: jungle gym, slides, bicycle, sandbox, etc.

b. First Grade:

Cat and Mouse	Teacher Ball
Hunter	Dog and Bone
Brownies, Fairies	Circle Tag, etc.

c. Second Grade:

Two Deep	Squat Tag
Simple Relay	Circle Call Ball
Number Race	Snowball Fight, etc.

d. Third Grade:

Two Deep	Circle Kick Ball
Circle Pass Ball	Black and White
Circle Race	Fox and Geese, etc.

2. Intermediate Grades—The intermediate grades should include many games of low organization. Lead-up games, modified team games, an-

tagonistics, and more highly organized group games should be gradually introduced.

a. *Fourth Grade:*

Hot Ball	Club Snatch
Dodge Ball	Link Tag
Last Couple Out	Ditch Pull, etc.
Maze Tag	

b. *Fifth Grade:*

Three Deep	Pass and Change
Soccer Dribble Relay	Million Dollars
Indian Club Guard	Push and Pull, etc.

c. *Sixth Grade:*

Keep Away	Guard the Pins
Dodge Ball	Broncho Tag
Snake Dodge Ball	Wand Wrestling
Jack Rabbit Relay	Etc.

3. Lead-Up Games

<i>Soccer</i>	<i>Basketball</i>
Circle Kick Ball	Circle Pass Ball
Soccer Dribble	Circle Call Ball
Relay, etc.	Ball Tossing Relays
<i>Softball</i>	Straight Shot Relay
Ball Tossing Relays	Overtake Circle Ball
Grounder Relay, etc.	Circle Dribble Relay
<i>Volleyball</i>	Etc.
Set It Up	
Serving Relay, etc.	

4. More Highly Organized Group Games

Red, White, and Blue
Mass Soccer
Captain Ball, etc.

5. Modified Team Games

<i>Soccer</i>	<i>Softball</i>
Line Soccer	Tam
Kick Ball	Dodge Batball
Etc.	Hit Pin Ball
<i>Volleyball</i>	Etc.
Newcomb	<i>Basketball</i>
Modified Dodge	Basket End Ball
Ball	Three Court Basketball
Etc.	Etc.

Free Play

DESCRIPTION

This activity does not imply a dangerous free-for-all situation. It is free in the sense that pupils have a choice of activity based on the principle that the rights of the other fellow must be considered. In order that there may be order as well as fun, the period is governed by the pupils themselves. As problems arise they are met and solved by the class under the teacher's guidance. If this procedure is followed with sincerity and firmness the result is a vigorous, safe, worth-while period enjoyed by all.

OBJECTIVES

1. Lessons in self-government
2. Learning that people determine the kind of society in which they live
3. Learning at first hand the need for rules and regulations
4. Learning through experience the meaning and need of safety and protective measures
5. Others

TEACHING SUGGESTIONS, INCLUDING SAFETY PRECAUTIONS

1. The activities are limited by space, available equipment, and size of group
2. Free-play periods of this type can be organized in all grades
3. In the beginning, more time is needed in order to develop rules, attitudes, organization, etc.
4. There should be no free-play activity which interferes with the rights of others or results in injury to others
5. Others

RECREATION AND CAMPING

RECREATION,¹ under the leadership of the school, pertains to those phases of leisure-time activities which seek to enrich the creative and social experiences in which children find satisfaction and self-realization. CAMPING¹ is a phase of recreation by means of which children learn to live, work, and play in the outdoors.

SCHOOL RECREATION

The Scope of Recreation

One of the major purposes of education is guidance in the use of leisure time. If this purpose is to be achieved, the schools must provide leisure-time activities for pupils, help them to choose wisely and participate actively in a well-planned school-community recreation program. Schools must not ignore the leisure hours, during which much can be done either to hinder or promote personal growth. Therefore, recreation services are an important responsibility for every school claiming a well-rounded educational program.

Very often physical education is thought of as synonymous with recreation. While each can be

¹As defined by the Committee on Terminology, American Physical Education Association.

and often is the same as the other, and both are educational, each has its own intrinsic values, each has its own philosophy, and each requires a distinctive type of leadership. Physical education reaches its objectives primarily through physical activity, including to a great extent the physical activity which is a major part of most recreational programs.

What follows therefore is not physical education but recreation in terms of an out-of-school program which makes use of the school physical education plant, and, if comprehensive enough, any other facilities, services, or personnel that meet community needs.

This means full year-round use of the school facilities and, to a certain extent, school personnel. This calls for two types of services

1. The recreation needs which grow out of the daily school program and which have been described under various headings in the physical education outline. In general, the time during which school recreation needs must be met is approximately from 8 a. m. to 5 p. m.
2. The recreation needs which grow out of requests for time after school hours.

When Shall We Plan for Recreation?

1. During the school year
After school
Saturdays, Sundays, holidays
2. Summer playgrounds
3. Others

Where Shall the Program Take Place?

1. Indoors
Classroom, gymnasium, auditorium
2. Outdoors—on the playground
 - a. The size depends upon the size of the community

- b. Areas should be separate so as not to present hazards

Separate the ball area from other areas

Separate the area for play apparatus

Plan a special place for small children

Specific sections for darts or throwing games

Who shall be in charge?

1. Trained personnel
2. Specialists
3. Volunteers
Youths, Adults
4. Pupil-leaders
5. Others

Materials Needed

1. For the playground
 - a. Apparatus: jungle gym, swings, slides
 - b. Game equipment:
All types of balls
Bean bags
 - c. Outdoor lighting
 - d. Other equipment
2. For handicraft
Paper, paint, leather, metal, discarded materials, etc.
Other supplies
3. For dancing
Some form of music
Suitable area—outdoors or indoors
Other

ACTIVITIES

ACTIVITY	PRIMARY	INTERMEDIATE
Audience situations	Puppet shows, pet shows, amateur shows	Amateur shows, hobby shows
Club activities	Brownies, Blue Birds, Cub Scouts	4-H Club, Brownies, Blue Birds, Girl Scouts, Boy Scouts, Camp Fire Girls
Dancing	Creative dances, singing games	Singing games, creative dancing, folk and social dancing
Dramatics	Story plays, creative plays, pantomimes	Creative plays, dramatized stories, amateur plays
Handicraft	Clay modeling, soap-carving, painting	Leather, raffia, birdhouses
Literature	Story-telling	Story-telling, reading, play-ground newspaper
League games	Contests—marbles, jacks, hopscotch	Ball, marbles, jacks, kite flying
Music	Singing, rhythm, bands	Chorus, instruments
Nature	Study trees, birds, flowers, day camping	Bird hikes, overnight hikes
Physical recreation	Games, stunts, exercises, apparatus activity	Games, stunts, exercises, apparatus activity
Trips	Zoo, museums, parks, outdoors	Zoo, museums, parks, outdoors, musical events
Special activities	Hobby show, Doll show, Mother's Day and Father's Day	Hobby show, handicraft exhibit, Mother's Day and Father's Day
Others		

4. For dramatics

Costumes, equipment for constructing scenes, make-up
Other

5. For literature

Well-selected books
Quiet location
Other

6. Music

Safety

1. Making sure that all equipment used is safe
2. Instruction regarding use of equipment
3. Constant presence of persons in charge
4. Use of safety leaders
5. Posters in appropriate places
6. Designating play areas for
Small children
Older pupils

7. Care of game equipment

8. Regulations for bicycle riders
9. Cleanliness of grounds
No broken glass, fruit peels, stones

10. Other

Sanitation

1. Regulations for wading pools and swimming
2. Care and regulation of shower rooms
3. Hand-washing facilities
4. Other

SCHOOL CAMPING

The Scope of Camping

Considered as an educational experience, camping includes outdoor activities in a variety of

forms. It can give the school program a rejuvenation by taking education into the open whenever and wherever the outdoors can make an experience more real and vital, especially in the fields of physical education, nature study, science, and the social studies.

Some of the suggestions show that camp program beginnings can be made simply and without too much expenditure of money. The important thing is genuine interest and understanding of the basic issues that need to be met in establishing camping and outdoor experience as a part of the total school program.

Camping and outdoor experiences provide an ideal opportunity for practicing democratic living. There is a need to give boys and girls experiences with the realities of life. Planning, sharing, discussing, and evaluating are necessary parts of camp living, as they are of good educational practice in the classroom. Certain basic points which are emphasized in the social studies (food, shelter, clothing, and man in relation to his environment) are more practical in their outdoor setting than as theoretical problems in the classroom.

When Shall We Plan for Camping?

1. During the school year and summer
Day camping
Overnight camping
Weekend camping

Note: In some states a whole school week or more is allotted for camping activities.

Where Shall We Camp?

1. "Around home"
Backyard, schoolyard
2. Nearby parks, woods
3. Reservations or sanctuaries

4. Specially selected area with swimming
5. Public and state forest reservations
6. Farms
7. Established camps
8. Others

Visits to natural history museums, sanctuaries, or reservations

- b. Day camping — camping by the day for a series of days with the children returning home each night

Find an area for swimming if possible

Find a place to store equipment at night

Find a shelter in case of sudden rain

Other

- c. Overnight camping — groups with adults go to a preestablished place, as a farmhouse or cabin

Plan equipment, foods, housekeeping schedule

- d. Established camping — camps set up with living quarters and resident staff

- e. Others

3. Overnight or week-end camping

Tent

A place equipped with facilities for shelter, heat, sleeping, cooking, and eating

Others

4. Established camping

- a. Central camp building
 - Dining room
 - Kitchen
 - Recreation hall

- b. Small units for living

- c. Others

Who Shall Be in Charge?

1. Teachers
2. Volunteers (parents)
3. Specialists
4. Resident staff
5. Counselors
6. Others

Activities

1. Camping experience should teach the individual

To appreciate nature

To plan and prepare food

To make a fire

Fire prevention

Safety and first aid precautions

How to make and carry a pack

How to use a compass, estimate position by the sun or by the stars

Proper use of hatchet and ax

How to mark a trail

The necessity of proper clothing

Others

2. Certain types of outdoor experiences

- a. All-day hikes can be integrated with the curriculum

Going to see a quarry or sawmill in operation

Materials Needed

1. For all-day hikes and general outdoor activities

Simple tools, such as knives

Equipment for making leaf prints

Cooking and eating utensils

Cups

Cooking facilities which may be built by campers

Recreational supplies

Others

2. For day camping

All material listed under 1 above

First aid kit

Handicraft materials

Others

Safety Precautions

1. Proper use of instruments, such as knives, hatchets, ax
2. Use of matches. Be sure fire is completely out before leaving
3. Pure drinking water
4. Protect self against snakes, insect bites, poisons
5. Use of safety leaders
6. Cleanliness
7. Others

Health Precautions

1. Instructions in health protection
2. Make and keep surroundings sanitary
3. Insure proper sanitation
4. Care and proper handling of food
5. Facilities for proper rest and sleep
6. Guard against over-activity
7. Others

SAFETY EDUCATION

SAFETY EDUCATION¹ develops those attitudes, habits, practices, and knowledges which will enable boys and girls to live fully but with due consideration for self-protection and regard for the life and happiness of others.

The Scope

Safety education is directed toward developing in the child an appreciation of the need for safety in relation to himself, his family, and his community. A well-planned, flexible program should include these units:

1. Safety at school
2. Safety at home
3. Safety in the community
4. Other

Responsibility

Safety instruction is a responsibility of every teacher. Such instruction may be given—

1. Through *direct* teaching in periods planned for specific safety instruction
2. Through *integration* in courses such as health instruction, physical education, art, music, social studies, arithmetic, reading and English
3. Through *incidental* instruction as the situations arise, at school, in the home and in the community
4. Through special activities, such as Safety Councils, Assemblies, Trips
5. Other

Program

Determination of the safety instruction program

1. By local, state, and national statistical studies according to age levels
2. By study of local safety hazards in the school, the home, and the community
3. By an analysis of the State laws pertaining to safety of school pupils
4. Other

Units of Instruction

1. Safety at school
 - En route to school
 - Within the school building
 - Playground safety
 - Other
2. Safety at home
 - Fire hazards
 - Causes and prevention of falls
 - Firearms
 - Poisons
 - Asphyxiation
 - Other
3. Safety in the community
 - Traffic safety
 - Play safety
 - Pedestrian safety
 - Other

Approach to Teaching

Pertinent experiences of pupils may be utilized to initiate and develop units of instruction. Teachers may find it helpful to teach short seasonal units on safety. The following are suggestive of situations that might be used.

Safety at School

1. En route to school
 - Study the safety hazards of the community for children who walk to school
 - Study the State regulations pertaining to safety on the bus
 - Discuss above problems in safety council or committee
 - Organize safety patrols with assistance of Pennsylvania State Police, local police officers, and interested automobile agencies
 - Report and keep record of accidents and their causes
 - Observe obedience to regulations, with self and group checking
 - Make safety posters
 - Use newspaper clippings
 - Other
2. Within the school building
 - Study the State laws pertaining to fire drills and means of protection against fire

¹Definition of the Committee on Terminology of the American Physical Education Association.

Cooperate by planning and carrying out fire drills in school
 Remove fire hazards in school
 Check fire extinguishers and study how to use them
 Study safety problems of individual classrooms
 Study safety hazards in use of materials, scissors, pens, chemicals, glass, etc.
 Children should learn how to handle pets and what to do with stray animals
 Children should learn safe method of using drinking fountain and the dangers of pushing
 Children should learn how to carry food trays, chairs, and other materials
 Study special safety hazards of the playroom and gymnasium
 Construct and place appropriate safety posters
 Select leaders to help carry out safety measures
 Use the school paper for publicity
 Use appropriate movies and slides on safety
 Others

3. Playground safety

Make frequent inspection of equipment
 Study and plan rules for safe use of equipment and game supplies
 Let pupils select leaders to help with playground safety
 Designate special play areas for certain age groups and for games which involve hazards to others
 Have pupil committees pick up glass and other debris from the school grounds
 Train older pupils to help protect younger children
 Plan safe play areas within the school grounds
 Teach children to report accidents immediately to an adult
 Keep a record of the types and causes of accidents
 Plan to discuss problems seasonally: Fall—Children returning to school life from summer vacation; Winter—Sled riding, snow balling, skating; Spring—Kite flying, ball games, hitchhiking; Summer—Swimming, use of summer playgrounds, ivy poisoning, hitchhiking, bicycle riding, taking care of younger children, hiking
 Others

Safety at Home

1. Fire hazards

Make a check sheet for fire hazards in your home
 Cooperate during fire prevention week
 Know what to do in case of fire in your home
 Know the location and how to use the fire alarm box
 Know the dangers of playing with matches and explosives
 Know the dangers of and how to use electric equipment in the home
 Develop attitudes of seriousness toward fire hazards
 If fires occur in the community and pupil interest is aroused, teachers should use the incident to teach about fire hazards

2. Falls

Study the dangers of falls due to slippery floors, toys on stairs, slipping in bath tubs, standing on chairs, icy pavements
 Study dangers of improper use of furniture
 Study safety practices in placing of rugs, etc.
 Others

3. Firearms

Know the safety rules and regulations for handling firearms
 Use newspaper clippings during hunting season to study the dangers of careless handling of firearms
 Others

4. Poisons

The necessity for marking bottles containing poison
 A safe place to keep bottles of poison
 Proper handling and care of perishable food
 Identify poisonous plants and herbs

5. Asphyxiation or suffocation

Study problems of safety in use of stoves and furnaces, and the dangers of broken or leaking gas pipes
 Use newspaper articles to study the dangers of carbon monoxide from cars
 How to prevent suffocation
 Learn proper use of gas in cooking and heating

Safety in the Community

1. Traffic Safety

Know and obey rules for pedestrians

(Continued on page 398)

CHART SHOWING PROGRESSION IN OUTCOMES IN THREE UNITS IN SAFETY EDUCATION

SAFETY UNIT 1: EN ROUTE TO SCHOOL

KINDERGARTEN	GRADE 1	GRADE 2	GRADE 3
Knows own name and address	Practices habits previously learned	Practices habits previously learned	Continues to grow in knowledge of safety regulations
Knows name of school	Learns more about street safety	Grows in knowledge as to street safety	Can safely cross unprotected streets
Walks on sidewalk	Knows why he should not play on sidewalks	Always crosses streets at corners	Avoids teasing dogs
Looks both ways before crossing street	Keeps to right while walking	Refrains from fooling on the street	Shows courtesy to others on the street
Knows policemen are friends	Obeys traffic signs and signals	Cares for little folks on the street	Follows all bicycle regulations
Observes traffic lights		Stays away from fallen wires	
Goes straight home from school			
Crosses streets only at corners			
Obeys safety patrol leader			

GRADE 4	GRADE 5	GRADE 6
Interprets and practices knowledge previously learned	Continues to grow in safety knowledge	Shows a definite interest in safety
Knows the safety terms used at his age level	Has the proper attitude toward safety codes	Practices safety procedures regularly and habitually
Knows his community safety protections	Can make community survey of dangerous locations en route to school	Makes intelligent safety contributions regarding streets
Avoids hitchhiking	Knows the community traffic force	Brings in news articles pertaining to safety
Considers others on the street	Knows where to report emergencies	Considers others while walking on the street
	Does not annoy pedestrians	

SAFETY UNIT 2: LIVING SAFELY IN THE HOME

KINDERGARTEN	GRADE 1	GRADE 2	GRADE 3
Knows the dangers of playing with matches	Practices habits previously learned	Practices habits previously learned	Practices habits previously learned
Knows the dangers of playing with attached electric cords	Learns more about home safety	Increases his home safety vocabulary	Helps to develop a home safety code
Keeps toys in proper place	Knows why he should keep toys off the floor	Never climbs on chairs to get objects	Does all he can to protect the little ones
Keeps all foreign objects away from mouth	Knows he should never touch electric sockets with metal objects	Obeys all home safety rules	
Keeps away from stoves when in use	Knows the danger of sliding down banisters		

GRADE 4	GRADE 5	GRADE 6
Interprets and practices knowledge previously learned	Interprets and practices knowledge previously learned	Interprets and practices knowledge previously learned
Knows the safe use of stoves	Shows growth by having proper attitudes concerning home hazards	Knows the danger of escaping gas
Knows how to protect his home from fires	Continues to grow in home safety knowledge	Knows the danger of handling guns
Knows the proper protection of all foods	Knows what to do in case of an emergency	Never takes medicine unless sure of the content of the bottle

SAFETY UNIT 3: LIVING SAFELY IN THE COMMUNITY

KINDERGARTEN	GRADE 1	GRADE 2	GRADE 3
Walks on sidewalks	Practices habits previously learned	Practices habits previously learned	Practices habits previously learned
Avoids running into street after ball	Learns more about community safety	Increases his community safety vocabulary	Helps plan a safe playground
Plays only in safe places	Uses playgrounds and safe lots after school	Knows use of roller skates and tricycles	Shows courtesy to all on streets
Knows traffic helpers and officers are friends	Knows the dangers of icy walks	Uses playground equipment safely	Appreciates the values of playing safe
Plays only with safe toys	Obeys the traffic signals		

GRADE 4	GRADE 5	GRADE 6
Interprets and practices knowledge previously learned	Interprets and practices knowledge previously learned	Interprets and practices knowledge previously learned
Knows safe use of highways, parks, railroad crossings	Continues to grow in community safety	Exercises proper conduct at all community activities
Cooperates with the city safety officers	Shows growth through proper attitudes toward city and safety regulations	Reports community hazards immediately to proper person
Helps with the safety survey of the city	Does not hitchhike	Does not hang on street cars, automobiles, trucks or buses
	Knows the proper use of buses	

HHC-43—175M—6-44

Commonwealth of Pennsylvania
DEPARTMENT OF HEALTH

TEMPORARY SCHOOL EXCLUSION NOTICE

194.....

To the Parent or Guardian:

Name of Pupil..... Age..

Residence

Under the provisions of the Act of June 28, 1923 and regulations the pupil named above is hereby temporarily excluded from school because of symptoms suggestive of communicable disease or condition transmissible to others. For the welfare of this child and the safety of others a physician should be consulted at once.

Issued by order of the SECRETARY OF HEALTH.

.....
Teacher

.....
Address

If upon examination by the family physician it is found that the pupil referred to above does not have a communicable disease or condition transmissible to others the pupil can be *immediately* returned to school on Form 39-B provided for this purpose.

Should diagnosis or investigation establish the existence of a quarantinable communicable disease or a reportable communicable disease the return of the pupil to school will be in accordance with the Rules & Regulations. Form 42, Postal Card Notice to Teachers, issued by the Sanitarian or Health Officer, will govern the case involved.

NOTE: Rules & Regulations provide that every physician who shall treat or examine *any person* suffering from or affected with any disease declared to be *notifiable* shall report the fact to the Department of Health through the Sanitarian on the Morbidity Report, Form 34. (See Section I of the Act of June 28, 1923 as amended May 20, 1937.)

(Continued from page 395)

Know how to ride a bicycle in traffic. Adhere to local ordinances with regard to inspection and licensing of bicycles
Realize the hazards to you and others created by careless and drunken drivers
Observe safety precautions when playing near the street
Teach children to keep off the streets and roads when playing

2. Play safely in community

Know safe places to play—back yards, unused lots, schoolgrounds, playgrounds
Abide by established rules of play
Observe local traffic regulations when riding bicycle
Observe and obey swimming-pool regulations
Help protect small children
Be considerate of the rights of adults

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Official Agencies

Institute of Inter-American Affairs, 499 Pennsylvania Avenue, Washington, D. C. Mostly information about health in the other Americas, some in Spanish.
State and local Departments of Health in each state. Ask to be placed on mailing list for monthly bulletins, annual reports, mortality and morbidity reports, and for samples of pamphlet and poster material.
State and local Departments of Education in each state.
State universities and colleges.
State and local Public Welfare Departments.
State and local representatives of the U. S. Department of Agriculture. (Extension specialists, home and farm agents, 4-H Club workers)
Children's Bureau, Federal Security Agency, Washington, D. C. Materials on maternal and child health. Ask to be placed on mailing list.
U. S. Department of Agriculture, Washington, D. C. Materials on extension service work, foods, nutrition, etc.
Superintendent of Documents, U. S. Gov't Printing Office, Washington, D. C. Handles sale of all government publications. Write for price lists.
U. S. Public Health Service, Washington, D. C. Ask for lists of publications and to be placed on the mailing list for:
Public Health Reports
Venereal Disease Information
Public Health Engineering Abstracts
Bureau of the Census, Washington, D. C.
National Office of Vital Statistics, U. S. Public Health Service, Washington, D. C.
U. S. Office of Education, Washington, D. C.

Professional and Volunteer Organizations, Foundations, etc.

Alfred P. Sloan Foundation, Inc., 30 Rockefeller Plaza, New York, N. Y.
Allied Youth, Inc., 1201 16th St., N. W., Washington, D. C. Materials on alcohol education.
American Home Economics Association, 617 Mills Building, Washington, D. C.
American Heart Association, 1790 Broadway, New York, N. Y.
American Dental Association, Bureau of Public Relations, 212 East Superior Street, Chicago, Ill.

American Medical Association, Bureau of Health Education, 535 North Dearborn Street, Chicago, Ill. Most materials must be obtained through a physician or local medical society. Write for lists of materials and statement of policies.
American Institute of Family Relations, 607 South Hill Street, Los Angeles, Calif.
American Public Health Association, 1709 Broadway, New York, N. Y. Write for bibliographies.
American Red Cross, 17th and D Streets, Washington, D. C. Also Junior Red Cross.
American Public Welfare Association, 1313 East 60th Street, N. W., Chicago, Ill.
American Society for the Control of Cancer, 25 West 43rd Street, New York, N. Y. Monthly bulletin and other free materials.
American Society for the Hard of Hearing, 1537 I Street, Washington, D. C.
American Association of University Women, 1634 I Street, Washington, D. C.
American Social Hygiene Association, 1790 Broadway, New York, N. Y.
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Association for Family Living, 209 S. State Street, Suite 1426, Chicago, Ill.
American Federation of Labor, Union Trade Labels Department, 9th and Massachusetts Avenue, N. W., Washington, D. C. Materials on foods and labeling.
Better Vision Institute, 30 Rockefeller Plaza, Room 2020, New York, N. Y.
Bicycle Institute of America, 122 East 42nd Street, New York 17, N. Y.
Boy Scouts of America, 2 Park Avenue, New York, N. Y.
Chamber of Commerce of the United States. Health Advisory Council and Committee on Education, Washington, D. C.
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Child Welfare League of America, 130 East 22nd Street, New York, N. Y.

- Commission on Religion and Health, 297 Fourth Avenue, New York 10, N. Y.
- Commonwealth Fund, 41 East 57th Street, New York, N. Y.
- Community Chest and Councils, Inc., 155 East 44th Street, New York 17, N. Y. Materials on community planning.
- C. I. O., Community Services Committee, 1778 Broadway, New York 19, N. Y.
- Elizabeth McCormick Memorial Fund, 848 North Dearborn Street, Chicago, Ill.
- Family Welfare Association, 130 East 22nd Street, New York, N. Y.
- Farm Foundation, 600 South Michigan Avenue, Chicago 5, Ill. Material on rural health problems and services.
- General Education Board, 49 West 49th Street, New York, N. Y. Reports of various education projects.
- Girl Scouts of America, 14 West 49th Street, New York, N. Y.
- Hampton Institute, Hampton, Virginia. Materials on health and education as related to the Negro.
- Industrial Hygiene Foundation, 4400 Fifth Avenue, Pittsburgh 13, Pa.
- Industrial Sanitation Research Foundation, Louisville, Ky. *Newsletter*.
- Julius Rosenwald Fund, 4901 Ellis Avenue, Chicago 15, Ill.
- Life Extension Institute, 25 West 45th Street, New York, N. Y. Monthly bulletin.
- Maternity Center Association, 654 Madison Avenue, New York 21, N. Y.
- Merrill-Palmer School, 71 East Ferry Avenue, Detroit, Mich. Materials on child development and nursery schools.
- National Association for Nursery Education, Distribution Center, West 514 East Hall, University of Iowa, Iowa City, Iowa.
- National Child Welfare Association, Inc., 70 Fifth Avenue, New York, N. Y.
- National Society for Crippled Children, Elmira, N. Y.
- National Dental Hygiene Association, Shoreham Building, Washington, D. C.
- National Education Association (and affiliated associations—A. A. S. A., Council on Social Studies, etc.), 1201 16th Street, N. W., Washington, D. C. Write for bibliographies and handbook.
- New Tools for Learning, 280 Madison Avenue, New York, N. Y.
- National Foundation for Infantile Paralysis, 120 Broadway, New York 5, N. Y.
- National Committee on Atomic Information, 1621 K Street, N. W., Washington, D. C.
- National Committee for Mental Hygiene, 1790 Broadway, New York 19, N. Y.
- National Child Labor Committee, 419 Fourth Avenue, New York 16, N. Y.
- National Congress of Parents and Teachers, 1201 16th Street, N. W., Washington, D. C.
- National Congress of Colored Parents and Teachers, State Teachers College, Bowie, Md.
- National Health Council, 1790 Broadway, New York 19, N. Y.
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- National Conservation Bureau, 60 John Street, New York, N. Y. Materials on safety.
- National Recreation Association, 315 Fourth Avenue, New York, N. Y.
- National Self-Government Committee, Inc., 80 Broadway, New York 5, N. Y.
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- National Woman's Christian Temperance Union, 1730 Chicago Avenue, Evanston, Ill.
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- Project in Applied Economics, College of Education, University of Florida, Gainesville, Fla. Sloan Foundation sponsored school materials used in Kentucky, Vermont, Florida.
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- Woman's Foundation, 10 East 40th Street, New York. Materials for study groups on current problems, especially those relating to women and the home.
- Woman's Press, 600 Lexington Avenue, New York 22, N. Y. Outlet for YWCA materials on group work, personal hygiene, interracial problems, etc.

Source Information on Health Education Posters

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 National Camp, Life Camp, Inc., 369 Lexington Avenue, New York 17, N. Y.
 National Recreation Association, 315 Fourth Avenue, New York 10, N. Y.
 No. 7, *Recreational and Other Activities in the All-Day School Program*. 1943. (School Children and War Service) United States Office of Education, Washington, D. C.
 No. 73, *The School and Recreation Services*. (School Children and War Service) United States Office of Education, Washington, D. C.
Rural Recreation in Pennsylvania. The Pennsylvania State College, School of Agriculture, Agriculture Extension Service, State College, Pa.

SOURCE MATERIAL FOR SAFETY EDUCATION

American Association of America, 122 East 42nd Street, New York 17, N. Y.
 American Association of School Administrators (NEA), *Safety Education, 18th Yearbook, 1940*.
 American Automobile Association, Pennsylvania Avenue at 17th Street, Washington, D. C. (Also consult local club)
 American Red Cross, Washington, D. C. (Also local chapters)
 Bicycle Institute of America, 122 East 42nd Street, New York 17, N. Y.
 Center for Safety Education, New York University, New York, N. Y.
 Departments of the Commonwealth of Pennsylvania, Harrisburg, Pa.:
 Department of Public Instruction, Pennsylvania
 Department of Highways, Pennsylvania
 Department of Revenue, Pennsylvania
 Pennsylvania State Police
Education for Safe Living. STACK, HERBERT J., AND SIEBRECHT, ELMER B. New York, Prentice Hall, 1942.
 Institute of Public Safety, Pennsylvania State College, State College, Pa.
 Keystone Automobile Club, 220 South Broad Street, Philadelphia, Pa. (Also consult local branches)
 Local Sources of Safety Materials:
 Valuable films, special services and interesting instructional materials may frequently be procured from local libraries, safety councils, automotive organizations, insurance offices, industrial organizations, police and fire departments.
 National Board of Fire Underwriters, New York, N. Y.
 National Conservation Bureau, 60 John Street, New York, N. Y.
 National Education Association, Commission on Safety Education, 1201 16th Street, N. W., Washington 6, D. C.
 National Fire Protection Association, Boston, Mass.
 National Safety Council, School and College Division, 20 North Wacker Drive, Chicago 6, Ill.

- ROSENFELD, HARRY N. *Liability for School Accidents*. New York, Harper & Bros., 1940.
- Safety Education in the Elementary School*. H. LOUISE COTTRELL. Center for Safety Education, New York University, 80 Fifth Avenue, New York 11, N. Y.
- Safety Programs and Activities for Elementary and Junior High Schools*. HYDE, FLORENCE, AND SLOWN, RUTH. Chicago, Beckley-Cardy Company, 1938.
- STACK, HERBERT J., AND SIEBRECHT, ELMER B. *Education for Safe Living*. Prentice-Hall, 1942.
- Teaching Health and Safety in Elementary Grades*. PATTY, WILLARD WALTER. New York, Prentice-Hall, 1940.
- U. S. Office of Education, Superintendent of Documents, U. S. Government Printing Office, Washington 25, D. C.
- Youth Organizations. Among these are:
 Boy Scouts of America, 2 Park Avenue, New York, N. Y.
 Camp Fire Girls, 88 Lexington Avenue, New York, N. Y.
 Future Farmers of America and 4-H Clubs, State Department of Agriculture, State Agricultural Colleges, or local offices.
 Girl Scouts of America, 14 West 49th St., New York, N. Y.

SOURCE MATERIAL ON ALCOHOL, STIMULANTS, AND NARCOTICS

- BETZ, BETTY. *Your Manners Are Showing*. Grosset and Dunlap. 1946.
- British Men of Science. *Alcohol: Its Action on the Human Organism*. Longmans, Green.
- CARROLL, ROBERT S. *What Price Alcohol?* Macmillan. 1941.
- EMERSON, HAVEN. *Alcohol: Its Effect on Man*. D. Appleton Century. 1934.
- MILES, WALTER. *Alcohol and Human Efficiency*. Carnegie Institute of Washington.
- Yale University Laboratory of Applied Physiology. *Alcohol, Science and Society*. 1945.

SOURCE MATERIAL ON NUTRITION EDUCATION

- BOSLEY, BERILYN. *Nutrition Education in the Elementary School*. Teachers College Record, May, 1943.
- ROBERTS, L. J. *The Road to Good Nutrition*. Children's Bureau Publishers, No. 270. U. S. Printing Office. (15c)
- ROSE, M. S., AND BOSLEY, B. *Nutrition Units—Vegetables to Help Us Grow, Feeding Our Teeth, and Our Cereals*. Bureau of Publications, Teachers College, Columbia University.
- SHERMAN, H. C. *Food and Health*. Macmillan. 1947.
- STONE, HARRIETT. *The Meaning of Nutrition*. Little, Brown. 1943.
- Terre Haute Workshop. *Report on Nutrition Education in Elementary Schools*. U. S. Office of Education.
- TODHUNTER, E. N. *Everyday Nutrition for School Children*. University of Alabama. 1945.

Source Information on Audio-Visual Aids for Health Education

FILM CATALOGS AND LISTS

- "Aetna Educational Films," Aetna Life Companies, Hartford, Conn.
- Association of School Film Libraries, 9 Rockefeller Plaza, New York, N. Y.
- American Dental Association, 212 East Superior Street, Chicago, Ill.
- American Society for the Control of Cancer, 1250 Sixth Avenue, Rockefeller Center, New York, N. Y.

- American Social Hygiene Association, 1790 Broadway, New York 19, N. Y.
- British Information Services, Film Division, 907 15th Street, N. W., Washington 5, D. C.
- Castle Films, Inc., 30 Rockefeller Plaza, New York 20, N. Y. Distributors of all government films.
- Encyclopedia Britannica Films, Department 21-J3, 20 North Wacker Drive, Chicago 6, Ill.
- Educational Film Library Association, 45 Rockefeller Plaza, New York 20, N. Y.
- Educational Screen, 64 East Lake Street, Chicago 1, Ill.
- "Health Films," American Film Center, 45 Rockefeller Plaza, New York 20, N. Y.
- Health and Medical Films Section, Distribution Department, National Film Board, Ottawa, Canada.
- Institute of Inter-American Affairs, Washington, D. C.
- Institute of Visual Training, 40 East 49th Street, New York 17, N. Y.
- Medical Film Guild, 167 West 57th Street, New York, N. Y.
- Metropolitan Life Insurance Co., One Madison Avenue, New York, N. Y.
- Motion Picture Distributing Office, American Red Cross, 40 East 49th Street, New York 17, N. Y.
- National Organization for Public Health Nursing, 1790 Broadway, New York 19, N. Y.
- Research Division, National Education Association, 1201 16th Street, N. W., Washington 6, D. C.
- National Tuberculosis Association, 1790 Broadway, New York, N. Y. (Request through your state office)
- National Society for the Prevention of Blindness, 1790 Broadway, New York, N. Y.
- National Safety Council, School and College Division, 20 North Wacker Drive, Chicago 6, Ill.
- National Organization for Public Health Nursing, 1790 Broadway, New York 19, N. Y.
- New York University Film Library, 71 Washington Square, South, New York, N. Y. (All rental)
- Pennsylvania State Health Department Film Libraries.
- Sanitary Engineering Division, Milk and Food Section, U. S. Public Health Service, Washington, D. C.
- U. S. Department of Agriculture, Washington, D. C.

PLEASE NOTE

In ordering audio-visual aids the following should be kept in mind—

1. Audience for whom the film was produced
2. Time film may be kept by borrower
3. Cost of film loan
 - Free, including transportation
 - Free, except for transportation
 - Rental fee and transportation cost
4. Size of film or film strip — 16 mm. — 35 mm. (Stock used by commercial theatres and for film strips)
5. Size of slide—2" x 2", 3¼" x 4"
6. Silent or sound; sound on film, sound on disc
7. Black and white or color
8. Running time
9. Cost of purchase

ART



You may give them your love
but not your thoughts,
For they have their own thoughts.

from "The Prophet"

by Kahlil Gibran

CHAPTER VII

Art Education

BASIC ART CONCEPTS AND EXPERIENCES

A Concept of Art Education for the Elementary Schools of Pennsylvania

PRONOUNCED CHANGES in the concept of the art education program have taken place in the last decade. The day of copying the work of others, of following patterns and producing a rigid or academic type of visual art, has been supplanted by the interpretation of areas of the child's activities, interests, and growth.

The broader approach to the art program is based on the learning process as it is brought about through the acquaintance with and handling of many materials. It tends to develop the child's creativity through stimulation and through his sensitiveness and feeling of appreciation of the art products which he makes or of those which he observes. The newer approach tends to satisfy the creative urge which is inherent in every child and to provide an open avenue for its spontaneous release. It helps the child to live more completely by enriching his life through developing his love of beauty and by cultivating his taste in his own way.

The new art education allows each child to grow as an individual. He is granted freedom of art expression and a full play of the imagination. This freedom of expression in due time develops character, integrity, appreciation, and a fund of information. The art program should be flexible, especially in its initial stages, and as the child progresses, guidance should be provided and differentiated according to his needs. Later on the child may elect art as his vocation or pursue it as an enjoyment and as part of his daily living. Thus conceived, art goes beyond the school into life as it is lived in the home, the community, and the state.

Finally, it should be clearly understood that the purpose of general art education is not to train producing artists. *Rather it is based on the thesis that art is part of the child's life.* Such a program should be consistent with the needs of the individual as well as of the social group. On the basis of the foregoing general philosophy, the suggested course of study for the elementary schools stresses the following:

1. *Areas of Living* common to all people everywhere, as the basis of all art activities since "art is a way of life."
2. *Basic Concepts* representing criteria or beliefs as to what an ideal, practical art program should provide.

3. *New Concepts for Old* as an attempt to point up current beliefs in art education in a concise, understandable manner, and to correct erroneous thinking.
4. *Experience* as basic to all art and to all living, which becomes the core of the art curriculum, and finally,
5. *Motivation* which underlies all good teaching, clarified in an attempt at encouragement. The program as a whole is addressed to all teachers, as well as to art teachers and supervisors, to help them realize more fully that "art is not a thing, but a way." It indicates that the art program is intended to be at work integratively and not confined to the art "period."¹

BASIC CONCEPTS

1. *Art Expression is the Birthright of Every Child*

Every child automatically starts to scribble, to draw, to shape without being taught to do so. This natural impulse for expression must be not only preserved but cultivated. It is the task of education to give each individual equal opportunity to develop.

2. *Art Expression Promotes the Development of the Individual*

Art experience promotes the development of the individual and his reaction to life situations. The art experience, so based, awakens the potential abilities, quickens the interests, enriches the outlooks, reveals the identity, and increases the expressive power of the individual child.

3. *Art Expression is Vital to Emotional Growth*

Concomitant with physical and mental growth, the child develops emotionally. Emotional growth refers to the child's increasing ability to react properly and to adjust himself to environment, people, and situations. The freedom inherent in art expression and the control over materials and processes serve as contributing vehicles through which emotional maturity may be achieved.

4. *Art Expression Encourages Individual Differences*

Art expression preserves the sacred integrity of the individual child, that which distinguishes him from others. Participation in art experiences develops habits and attitudes concomitant to creative thinking, which equip the child to meet life situations independently and critically. A tree has a

different meaning for each child, e.g., a picnic ground, a juicy apple, a fishing pole, or a spray of blossoms; likewise, in the painting or drawing of trees, children will produce a great variety of shapes, each valid and acceptable in its own right.

5. *Art Expression Changes with Child Growth*

A child of five experiences "a man" differently from a child of ten. For a child of five "a man" is a being who has a head and can walk; for a child of ten a man has distinct characteristics in regard to clothes and motion. As the child's relationship to his environment changes, so does his art expression.

6. *Art Expression Reflects Child Experience*

To experience something is to become a part of it. Home, family, pets, games, and the like, are things a child knows and experiences because he is part and parcel of them. The art program must utilize child experience to the maximum. To see the color in a dandelion, to paint a picture of mother, to illustrate a game, or to model a pet are forms of expression based on first-hand experience.

7. *The Creative Process is More Significant Than the Art Product*

When the child creates, he undergoes important experiences which form his life and determine his thinking and acting. The very concentration of one experience makes him relive this experience vividly. While he gives form to his experience, he learns to organize his thinking to give his imaginings visible expression. It is this process of creating which is of vital importance to his growth, whether the final product is pleasing to the adult or not.

¹For further study, see *The Changing Curriculum* by Henry Harap and others. D. Appleton Century Company, Inc., New York City, 1937. Refer to pages 95-96.

NEW CONCEPTS FOR OLD¹

FALSE CONCEPTS

Only people who paint pictures are artists.

The object of the art program is to make a professional artist of each child.

Art is a "special" subject.

Art appreciation is taught to children through facts, dates, names, and stories.

In an art lesson, every child must work on the same project at the same time; uniformity is expected of each child.

The art education program is for the few gifted children.

The art program begins with the teaching of art principles.

The total art education program is confined to a set period in the day devoted to specific art training.

The art program provides materials for only a few gifted children to use in a special studio-type lesson in art.

The art education program consists of drawing and painting.

The art product is confined to the various media of the studio.

Art teachers are primarily interested in and judged by the quality of visual art objects produced by their students.

Art is taught only by the art teacher.

ACCEPTED CONCEPTS

All people are artists as producers or consumers of art.

The object of the art program is to satisfy the child's creative instincts, to enrich his daily life, and to develop his sense of beauty.

Art is a fundamental, natural activity of every child. It should correlate with and strengthen other subject fields. It should never be thought of or dealt with as a separate activity, but as an integral part of all learning.

Appreciation is not taught—it is "caught." The skillful teacher provides an abundance of enriching experiences and materials for the children.

Children differ in abilities, modes of expression, and interest. Many variations within the same group are not only acceptable but desirable.

The art program should serve all children both in school and beyond.

The art program employs art principles and gives stimulation and direction in advancing the principles of art.

In addition to providing periods for specific art training, the art program should be integratively at work every period of the day in any class or area in which the child has activities under way.

The art education program provides materials, motivations, and broad opportunities through which all children may develop character, and grow in the expression of their own daily living.

The art education program utilizes a large variety of two and three dimensional experiences to satisfy creative minds and hands.

The art product is the result of the enrichment or arrangement of *any materials* which will make the end effect more harmonious and pleasing.

Art teachers and school administrators are interested in what the art experience contributes to the child's personal development rather than in the objects that he produces.

All teachers are teachers of art in varying ways and degrees.

¹For elaborations, read Melvin E. Haggerty's *Art, a Way of Life*. University of Minnesota Press.

NEW CONCEPTS FOR OLD (Continued)

FALSE CONCEPTS

Teachers think only in terms of perfecting the child in a number of art techniques and performances.

Only elementary teachers who are especially adept and trained in art production themselves can teach art to children.

ACCEPTED CONCEPTS

Teachers think in terms of the child's personal development. Techniques are a means to an end, and not ends in themselves.

Any teacher who can arouse the latent urge and the inherent creative instinct of children, through skillful motivation and guidance, may do creditable professional art teaching. Whether the teacher be specially trained in art skills is relatively unimportant.

EXPERIENCE IS BASIC TO ART EXPRESSION

The Meaning of Experience

Experience as used in this connection means first-hand contact, identification of the self through a situation. When a child blends colors, he experiences what happens; when he goes to the county fair, he forms a concept of the fair by what he sees, hears, enjoys, or by what startles, annoys, or displeases him.

Differentiation of Experience

Visiting places, doing things, seeing things, hearing things, touching things are ways of experiencing. In turn they become the sources of self-expression in art. What has been said above indicates that experiences differ in kind but they also differ at various age levels. What impresses a first-grade child may not impress a fifth-grade child; the meaning of an event is not the same for a child at the second-grade level as it appears to a fifth-grade child. Insights, meanings, and references grow, become deeper, and acquire new significance as the child grows. Likewise, as the child matures, his experiences become one with him; become part of him.

*Areas of Experience*1. *The Self as Experience*

Growth has always been connected with increasing ability to use the senses; this is equally true of visual, manipulative, or body experiences. Through art expression, all of these abilities may be cultivated. In his early scribbles the child strives toward proper motor control; in drawing or painting

he follows his mental pictures with the movements of his brush, and he increases his manipulative abilities by shaping clay or working with other materials.

2. *Emotional and Spiritual Experiences*

Love, hate, joy, sadness, and similar feelings are forms of emotions. Devotion, sacrifice, reverence, and truthfulness have spiritual qualities. To experience any or some of these may result in a form of art expression that is either realistic or abstract. Such creative expression may be aroused in the child but it may also arise from places or events outside the child. Sincerity in expression is both vital and fundamental in art. The establishment of true relationship between experiences and expression carries over into the ethical life of the child.

3. *The Home as Experience*

It is in the home that the child first realizes the differences in the shapes, colors, and uses of things about him; it is here that his material wants are satisfied; here he learns to play, alone at first, later with mother, brother or other members of the family. It is in the home that he also experiences the first obstacles, that he learns cause and effect. In brief, it is here that early concepts, affections, disappointments, and joys find their roots. It is logical, therefore, that in preschool and early school years, home and family loom large in the child's mind and interest. Hence, the art program must capitalize on this very significant type of experience in order that the child may grow as abundantly as his mental and emotional environment will permit him.



Individual and Group Art Work

4. The Community as Experience

As the child grows, he plays on the porch, in the yard, or with one of his friends from the neighborhood. He and his pet may romp on the lawn. He now sees the automobile, the house, the neighborhood; his environment has broadened. He also realizes as he goes to school, to church, to the corner store with mother, to the barber with father, or to the park with his older sister that the world is larger than his home. These new vistas, new freedoms, and new acquaintances add to his thinking. They are becoming part of him, they offer new sources of exploration. Here again it should be clear to the teacher that the art program must include these wider contacts in the child's life, and must provide opportunity for expression.

5. Special Events as Experience

The vividness of the first Christmas morning when, for the first time, a child realizes the meaning of the decorated tree, of Santa who came and left toys and candy, is a typical event. There are many such events in the life of the child, happy

ones and sad ones, but all of them demanding a way of expression. The circus comes to town, the fire company has a carnival, the county fair, the parade along Main Street, the first train ride, a visit to the farm or to the city, picnics, festivals, holidays, a rain storm, the death of a pet, a flood—all impress the child vividly and become experiences which stimulate the child to create.

6. History and Literature as Experience

Children read prose and poetry dealing with things, people, and events of the past and of the present; sometimes they read imaginary works that project them into the future. Often the poems or stories that a child reads make a vivid impression upon his mind, give him new ideas and help him to form new concepts. The influence of comics upon young people is not to be dismissed lightly, but calls for caution. The age of chivalry, Indian legends, stories of ancient peoples, as well as simpler stories dealing with living in the present, may become sources of creative expression. History written for the elementary child does the same thing.

Drawing, painting, modeling, and a host of other art activities may result from the sources indicated when such reading has stimulated the child sufficiently to have become a part of his mental and emotional equipment.

7. *The Sciences as Experience*

By the time the child has reached the fourth grade, he begins to show interest in facts; simple facts to be sure. He learns how things grow, about the earth, the sun, the stars, and the planets; he learns what causes ice, snow, rain, the rainbow, and the clouds. He takes the airplane and the automobile for granted, he uses the telephone and knows that one may communicate with other parts of the world. He is inquisitive, likes to investigate; in a way he becomes increasingly interested in the sciences. This inquiring attitude often furnishes the child with experiences that may urge him to ex-

press himself graphically or plastically, to build, to shape—in brief, to create something. Facts are plausible sources of inspiration upon which elementary teachers should capitalize.

8. *Imagination as Experience*

One function of art education is that of providing the imaginative powers of the individual with avenues of expression. The truly creative mind sees beyond the commonplace, reshapes ideas, places, conditions, and things into new forms and gives new meaning to old and generally accepted concepts. All experiences are important in that they become a part of the child and prompt him to express himself. Sometimes the child dreams. Often unreal things and unusual situations lead the child to unrealistic or abstract concepts which exist in a world apart from reality. Yet, such imaginative creativity must be encouraged.

HOW TO MOTIVATE FOR ART EXPERIENCE

Motivation is ineffective if it does not reach the child. Therefore, good motivation is in the direction of the child's thinking, feeling, and experiencing. All motivation which is not on the child's level is foreign to him. From this, it becomes clear that patterns, color-books, or other devices for tracing or copying and for so-called "busy-work" are detrimental to the child's growth. These are imposed standards which do not grow out of the child's thinking; they make him dependent on aids and stimulations that slow up his creative powers. The teacher can bring out *only* what is *in* the child. The assumption, therefore, is that good motivation is based on knowledge of the child.

Out of the urge for self-expression grows the desire to use various materials. Such usage should not be totally directed. The use of art materials in prescribed ways only restricts the child in his individual expression. In so far as possible, let each child find out for himself how to handle a brush, how to mix paint, how to model, how to carve. Lowenfeld points out that "Technique is closely interwoven with expression and develops with the urge for self-expression."¹

The most important function of all motivation or stimulation is to free the child from inhibitions

which stand in the way of his expression. If a child says, "I can't draw," we can be reasonably sure that it is not his inability to draw which prevents him from expressing himself, but his lack of confidence. Through wrong motivation, he has become discouraged with his own way of expression. For the teacher, it is essential to know that encouragements like "Why, Johnny, you know how to draw!" would be ineffective and frustrating for the child. The child does not need a boost in his drawing ability, but a bolstering of his confidence in *his experience*. When a child says, "I can't draw a picture of myself throwing a ball," the correct motivation on the part of the teacher would be to strengthen the experience with questions such as: "You don't know how to throw a ball?—What do you do when you are throwing a ball?—Show me *how* you throw a ball—How do you hold your arms and your hands?" etc. Such a motivation of the experience is usually sufficient to establish readiness for expression and thus to bring about a recovery of the child's shaken self-confidence.

In conclusion, it should be said that *not* the drawing ability but the urge and readiness *to express an experience freely* should be motivated. A teacher does not need to be a skilled artist to stimulate child expression.

¹Victor Lowenfeld, *Creative and Mental Growth*, Macmillan Co., New York, 1947.

SOME ADMINISTRATIVE ASPECTS

Time Allotment for Art Instruction

In consideration of the increased use of art by elementary teachers in correlation with many subjects, the tendency is to allow more time for art than has been the case in the past.

The elementary teacher finds art an excellent means of motivating instruction and of integrating it with many subjects which the children study. Consequently art plays a leading part in the general school program.

However, there must be flexible periods set aside for *specific art instruction at all grade levels*. It is hoped school authorities will find the following time chart helpful:

TIME CHART

GRADE	SUGGESTED TIME FOR SPECIFIC ART TRAINING	SUGGESTED ADMINISTRATION
Kindergarten Grade I Grade II Grade III	150 minutes per week	5 periods, each 30 minutes
Grade IV Grade V Grade VI	90 to 150 minutes per week	2 or 3 periods weekly; 1 period of Industrial Arts

Who Should Teach Art to Children

The elementary teacher, in position to know individual children better, especially in relation to the over-all scope and sequence of various learning experiences, is the person best situated to teach art to elementary children.

The supervisor of art should be looked upon as a "helping" teacher, and should devote time to directional matters that will have greater impact on the lives of the children, the school, and the community. The supervisor of art, moreover, in conjunction with the district superintendent and other school authorities, should be in full charge of the art program, its development, management, and administration. The schedule should be so organized as to be of utmost service to the school system. Such items as the budget and the requisition of materials and supplies should be so arranged as to allow reasonable time to visit schools; the frequency, purpose, and length of visits should be planned in advance as a stimulus to teachers.

Specifically the supervisor should—

1. Prepare broad plans for each grade level and

interpret them to teachers. This may be done at regularly scheduled meetings at which time the supervisor explains, demonstrates, and consults with teachers.

2. Organize workshops and meetings for the benefit of teachers of the district. Art methods and means of motivation should be demonstrated. Teachers may participate freely and actively in acquiring art skills and in handling many and various art media. Here the elementary teacher learns "how to make" and "how to do" with numerous materials, in order that she may better guide and motivate her class in integrating art in conjunction with other subjects.
3. Select, distribute, and account for art supplies and equipment.
4. Acquaint the community through approved means of public relations, with the importance, needs, objectives, and attainments of the art program. This is an important function. (See *Art and Your Community* pages 425-426.)
5. Familiarize oneself with the general school program by cooperating in activities and with school authorities.
6. Be a professional adviser in the selection of prints, art objects, and pictures to help beautify the schools. Good taste, appropriateness, and the enrichment of the community are one's responsibility.
7. Participate in art meetings, organizations. He or she should keep abreast of the latest books, pamphlets, studies, etc., as means of instruction and bring these to the attention of teachers and school authorities.
8. Possess qualities of aesthetic judgment, open-mindedness, sense of humor, enthusiasm, even temper, good health, tact, diplomacy, and common sense. These will be evident in daily work and leadership.
9. Prepare reports for the district superintendent.

The elementary teacher who has no regular contact with a trained supervisor of art will do well to seek training in art workshops, training classes, and art meetings, where he or she may become better skilled in handling art media, and where professional growth may be attained.



Encourage Children to Draw, to Paint, to Model

The Well-Planned Art Room

Art should be taught in every classroom. Every teacher is an art teacher. However, an art center should be provided in each building if at all possible.

Such a center should be equipped fully and completely for the modern art education program. It should be planned with such flexibility that it could become readily available to the school as a whole and to the community.¹

1. Location

The art room should be approximately one and one-half times the size of a regular schoolroom and should be situated on the first floor of the building. Supplies of clay, paper, wood, metal, and other materials are thus easily moved in and out. Its proximity to the auditorium will simplify the planning of scenery and other stage properties. Its effectiveness as a display feature, when appropri-

ately equipped for modern art education, makes it necessary that it be near the main entrance of the building. Art rooms should not be located in basements or in rooms that do not have ready access, or that do not have good natural light. A sink with running water is a necessity; ample storage space should be provided. The furniture, in so far as size is concerned, should be selected with the children in mind. Such a room should be flexible as a workshop.

2. Lighting

Natural lighting should be satisfactory in order to protect the eyes of both pupils and teacher; ample window space with adjustable roller shades will accomplish this end. Modern fluorescent electric lighting should be installed to care for dark days or for evening use. Good heat and proper ventilation should likewise be provided. Ample electric outlets, with heavier than average circuits, to care for projectors, kiln, pottery wheel, etc., should be so located as best to serve the needs of an art laboratory.

¹Copies of *Planning the Art Department*, 1945, may be had from Related Art Service, 511 Fifth Avenue, New York 17, N. Y. This pamphlet contains approved plans and specifications in detail, color schemes, furniture, equipment, special and visual art equipment, etc.

Ample display space should be available to exhibit pupils' work, prints, photographs, posters, textiles, and other instructional materials. An adequate library of such materials, selected by pupils and the teachers, should be a growing and much-used aid. Art books, current art magazines, selected reproductions, and pamphlets are necessary as stimulants and should be a part of a functional library. Selected slides, film strips, and 16mm motion pictures (see lists under bibliography) will enhance an ever-growing, useful library. The art room should display ever-changing exhibitions. Art objects should likewise augment the equipment of the room. Well lighted and tastefully arranged display cases in the room and in main hallways are an effective means of education.

3. *Special Equipment*

Several tall wall-flush cupboards with hinged doors and adjustable shelves, and table-high drawers for pupils' work and illustrations should be provided. A blackboard placed at a suitable height, not less than eight feet long, and a roll-type, dull white projection screen, eight feet long, are neces-

¹A booklet *Paint Colors* is available at the Bureau of Plant Operation and Maintenance, Harold D. Hynds, Supt., 110 Livingston St., Brooklyn 2, N. Y. (\$1.50). This brochure was prepared by maintenance personnel with the aid of the Art Department, after a number of years of experiment and research in painting new and existing schoolrooms. It has arrangeable color plates.

sary. The room should be equipped with individual art tables with adjustable tops, and appropriate chairs. Workshop tables, a workbench fully equipped with tools, and chairs or stools are a necessity. An electric kiln with a firing chamber 12"x15"x18" is recommended. An approved 16mm motion picture projector and a stereopticon unit suitable for showing 2"x2" slides are items of equipment that should be installed.

4. *Room Colors*¹

The first consideration here is that of safeguarding vision from the standpoint of reflection and illumination. The art room, as well as other classrooms, should be harmonious in color and psychologically satisfying. Educators, psychologists, and ophthalmologists agree that the mental attitude of children and their visual acuity are improved in classes conducted in rooms that are bright and inspiring. Light-colored walls and ceilings with sufficient natural or artificial light will produce an environment that promotes healthful results and is conducive to work. Rooms should be painted in color schemes with due regard to the sources of natural light, reflections, and glare. Each room, therefore, should be well studied by the art teacher and the personnel of the school administration in consultation, before a final color selection is made.

NOTES FOR 233-C

KINDERGARTEN AND GRADE I

In Kindergarten and Grade I the child focuses all his experience on himself. Self-awareness and activities in relation to the immediate environment become the basis of motivation. I and MY are important words to the child during this age level.

Sample motivation: "I am drinking milk." *Introduction to situation:* "Where are you drinking milk and when?" A close stimulation of "how you drink milk" should make the child visually conscious of his body movements and body parts. This, in turn, will make his drawings, paintings, and modelings richer and fuller—How do you hold your glass? How do you lift the glass to your mouth without spilling the milk? How does your glass touch your mouth? Do you hold your head straight when you drink? Do you lift your arms when holding the glass? etc.—such questions will activate the child's

thinking and, thus, contribute to a closer relationship of the child to his experience. Similar questions on the part of the teacher will bring about activation in the mind of the child regardless of subject matter.

When the child's interests are motivated to one area as a center, and when supplied with materials, he will create, construct, and appreciate naturally. Children will continue to grow aesthetically by being allowed and encouraged to express their feelings freely. Their parents and teachers may aid them greatly by understanding them and by encouraging self-reliance both at school and in the home. *You are urged to read pages 403 to 408 for better understanding of this chart.*

AREA	A FEW TOPICS FOR MOTIVATION	SUGGESTED ART ACTIVITIES	SUGGESTED MATERIALS	DESIRABLE OUTCOMES (on the part of the children)
Living In My Home	I help mother I like my dog I play with toys I drink milk I brush my teeth	Allow children the pure delight of brilliant colors. Allow them freedom in drawing, painting, and modeling largely at their own choice in their own creative way. Give class ample opportunity to use a great variety of materials. Draw, paint, model, and construct from memory and in conjunction with units of study. Art becomes associated with feeling as well as with many visible forms and especially so when color becomes an essential part of the child's interpretation. Encourage wide and free experimentation in many media. From wood he will make an automobile, a truck, or an airplane. A boat will have a sail made of cloth or paper, etc. Exhibit children's work to encourage individuals and class as a whole. Encourage large drawings made freely. Occasionally display work done by other classes on same level. Teacher acts as a friendly guide (not as a taskmaster). Teacher points out good features of examples; teaches appreciation when opportunity presents itself. Teacher and children bring beautiful objects into room. Create a colorful and attractive school. Endeavor to keep the children happy and the school neat and attractive.	Pencil Paper Crayon Clay Scissors Powder paint Newsprint Wood Corrugated paper Thin wood Textiles Plaster Wire Thread Nails Seeds Buttons Beads Paper bags Putty Sawdust Wall paper Paste Etc.	DESIRABLE OUTCOMES (on the part of the children) COLOR Pure enjoyment of color. To distinguish colors. Sensory experience. DECORATION No conscious approach, but experiences in rhythm with free brush. ILLUSTRATIONS Not conscious of form. Child creates and uses his own concept unrelated to reality. He changes his concept frequently. Size of things is in relation to their importance to him. LETTERING Letter his own name, manuscript writing, bold capitals, from folded paper. Uses single-stroke letters.
How I Play	I play with my toys I play with my dog I play with my brother I play with my doll I play with my scooter			
What I Like	I like bright colors I like my red wagon I like my scooter I like my red coat I like colored pictures			
What I Use	I drink my milk I eat my apple I comb my hair I look at my picture I listen to radio stories			

How I Go Places	I play with my train I ride my red wagon I ride my hobby horse I ride in the car I ride in the bus	A FEW SUGGESTIONS FROM WORK DONE BY ARTISTS: <i>Paintings</i> Miss Bowles—Reynolds Don Manuel Osorio—Goya The Holy Night—Correggio With Grandma—MacEwen Le Gourmet—Picasso Mexican Child in Checked Dress—Rivera The Storage Room—DeHooch Elephants at the Circus—Curry <i>Sculpture</i> Playful Piebald—Carl Walters The Cub—Carl Walters Sammy Houston—Lathrop Arrange and encourage trips to galleries and museums. Acquaint children with local handicrafts and manufacture. Make art a part of learning activities. Refer to bibliography for books, magazines, movies, slides, and prints. Attend art conferences, workshops, and meetings. Keep abreast with art education literature.	Many color reproductions (large enough for classroom use) of paintings, sculpture, etc. Models, pottery, textiles, wall hangings, etc. Slides, original works of art, movies relating to grade levels, etc. Collect many articles for the "Fun Box", page 427. See page 429 for companies offering colored prints.	MODELING Plays with clay to get "feel." Creates unrelated shapes. (Realism of little importance to child) CRAFTS Visual and motor coordination now developing. Ability to tear, cut, fold, weave, paste paper, bend wire, braid yarn, drive nails, etc. APPRECIATIONS Natural growth in appreciation of art through contact and experience. See suggested list of art works in center column. See bibliography. INDUSTRIAL ART Enjoys applying color to things he has made.
	I help make a movie I make mud pies I make a snow man I build a house I build a fort			
With Whom I Play	I play in the rhythm band I sing with the boys I go down the slide with Don I sled ride with Sara I skip rope with Ann and Dick			
	I salute the flag I pick up wastepaper I watch the school patrol I go to Sunday School I feed the birds			
How I Reach Others	I talk on the telephone I write a letter to Grandma I act in a play I go on an errand I talk over the radio			

SOME EVIDENCES OF GROWTH: In Kindergarten and Grade I—(a) Richer representation of the individuality of the child. (b) A closer observation of the environment which is meaningful to the child. (c) No order in environment is expected, but an awareness of it is anticipated. (d) Color is usually not related to objects. The child will choose his own colors regardless of their relation to nature. (e) Proportions are not in relationship to nature. The child expresses importance by size. His art is judged not by adult standards, but by primitive and childlike standards. He cannot be hurried from one stage of work to another. (f) Increasing coordination between mind and hand. This is the foundation of the art program.

In connection with art activities relating to self and home, children should be exposed to good works of art dealing with these areas of experience. Works of old as well as of recent and modern artists should be considered. Large reproductions are best for acquaintance and enjoyment. When possible, original works of art and crafts should be shown. See firms on list and index and in bibliography which supply reproductions, etc. Endeavor to display a variety of selected colored prints throughout the year.

GRADE II

Second Grade children may grow out of the "I" and "MY" stage. They may seek companions to play with. This grows out of a desire to cooperate. Teachers should be aware of this change and provide proper motivation. The "WE" will be of significance during this grade level; likewise, increased interest in the environment in which the action takes place. Art activities of a two or three dimensional type may result from excursions children have taken, pictures they have seen or topics they have heard discussed. Children may express these forms in clay, papier mâché, paint, or pencil. They may also use bits of string, cloth, pasteboard, buttons, etc. Often this is done with genuine artistic feeling.

Sample motivation: An experience based on "Mother and I go shopping" or "We go shopping." *Introduction to situation:* What do you do when you go shopping with Mother? Do you help carry a basket? How do you carry it? Is it heavy? What is in it? What do you see in the store? What is the store like? Name the things that Mother bought. What colors were they? etc. *You are urged to read pages 403 to 408 to better understand this chart.*

AREA	A FEW TOPICS FOR MOTIVATION	SUGGESTED ART ACTIVITIES	SUGGESTED MATERIALS	DESIRABLE OUTCOMES (on the part of the children)
Living In Our Home	We water our plants We sleep with open windows Mother and I wash dishes Mary and I play games Jack and I play with rabbits	Refer to Grade I. Illustrate stories, poems, and personal experiences. Work from imagination, in color. Draw large size and fill space. Head sizes may be reduced. Keep <i>childlike quality</i> in drawings. Color mixing. Encourage one main idea in a drawing. Encourage figures in action. Teacher avoids imposing adult standards on children's work. Collect: pamphlets, seed catalogs, advertisements, wall paper samples, etc. Teach color as needs arise. Border and simple all-over patterns may be made and used as decoration for coordination. Encourage children to bring in (share) art objects from home. After discussions, take trips to local: Post Office, Airport, Fire Dept., R. R. Depot, a farm, shoemaker, store, etc. Make models, murals, maps of what has been seen. Posters. Titles. Art as related to: recreation, transportation, utilities, conservation, holidays, occupations, safety, communication, seasons, etc. Use many materials in construction, pasting, and cutting. Endeavor to keep the children happy and the room attractive.	Pencils Paper Finger paint Crayons Colored chalk Scissors Powder paint Wood Textiles Plaster Wire Nails Thread Seeds Beads Yarn Buttons Water colors Raffia Paper bags Ribbons Newsprint Corrugated paper Thin wood Putty	DESIRABLE OUTCOMES (on the part of the children)
				COLOR Beginning to relate color to objects; emotional satisfaction.
				DECORATION Large movements and repetition.
				ILLUSTRATION Beginning of space concept. Use of base line. Forms often repeated.
How We Play	My brother and I play with drums We play house We play school We have a tea party We dress in Mother's clothes			LETTERING Consciousness of letter and word space, one color is pasted on another. (Encourage use of own illustration on poster rather than clipped colored pictures.)
				MODELING Relates subject matter to self and home. Forms a figure by pulling parts from mass of clay or uses clay pieced together. Uses utmost freedom. Color is added to clay frequently.
What We Like	We like the rabbit We like big dolls We like the bluebird We like Bill's house			
	Brother and I eat our cereal Doris and I wear our ribbons Judy and I buy candy We bring home groceries We help shovel the snow			

How We Go Places	We go on the merry-go-round We have fun on swings We ride our tricycles We ride on our scooters	A FEW SUGGESTIONS FROM WORK DONE BY ARTISTS: <i>Paintings</i> Sunflowers—VanGogh The Squirrels—Durer Madonna of the Chair—Raphael Horses in Winter—Lockwood The Zebras—Arlodge Boy with Rabbit—Raeburn Pasturage—Troyon The Beach—Knight <i>Sculpture</i> Statue of a Horse—Greek Mother and Child—Wm. Zorach Mater Amorsa—A. Piccirilli See list and index of firms handling color reproductions. Endeavor to keep an ever-changing display of selected reproductions before the class. Arrange and encourage trips to galleries and museums. Acquaint children with local handicrafts, artists, and manufacturers. Make art a part of learning activities. See bibliography for books to aid your instruction. Attend art conferences, workshops, and meetings. Keep abreast of current art education literature.	Wall paper Paste Etc. Many large color reproductions of paintings, sculpture, etc. Models, pottery, wall hangings, etc. Slides, 2" x 2". Original works of art. See bibliography for movies, slides, film strips, and reproductions or see your local dealers. Collect articles for the "Fun Box". (Page 427).	CRAFTS Does stick printing in color, sews simple articles, strings beads in pattern, uses papier mâché for modeling, likes to make gifts for parents. APPRECIATIONS Good taste developing through personal selection of clothing. Cleanliness, neatness, a good appearance. Use of many colors and modeling clay as means of expression. See suggested list of art works in center column. INDUSTRIAL ART Enjoys applying color combinations in designs to objects he has made.
	We make furniture for our doll house We make clay dishes for our party We make a calendar We make a daily weather chart We make a pinwheel			
	We play ball in the schoolyard We play marbles with Joan and Sam We paint pictures for our classroom We play train with Don and Ella We make a farm on the project table with classmates			
	We feed our pets We obey traffic lights We sweep the sidewalk We visit the post office, fire house, etc. We take turns drinking at the fountain			
How We Reach Others	We learn to greet strangers We ask our friend, the policeman We buy oranges at the store We mail a letter to cousin We have fun at our party			

SOME EVIDENCES OF GROWTH: Second Grade children will evidence: (a) greater awareness of people they know and see, (b) interest in places they have been, and what is taking place about them, (c) action of the body, such as running, jumping, throwing a ball, or reaching for an apple, (d) in drawing or painting, a

consciousness of environment in a more understandable order; usually this order is signified by a line called "the base line" on which they place everything, (e) relationships of colors to objects, (f) awareness of proportions when such seem to be significant to them and when these are their own natural expression.

GRADE III

For Grade III children, the motivation in creative expression should be centered around their desire to explore not only the immediate environment but also places beyond. Therefore, a forceful stimulation of the **WHERE** in terms of environmental experiences will encourage children in their desire for exploration as well as in their creative expression.

Encourage children to talk about their backyards, trips, rides, hikes, and travels. Let them describe through dramatization and interpret vividly the different types of people they have met at the butcher's, at the grocery, at the post office, at the farm, at the doctor's office, etc. Stimulate them to talk about their experiences in climb-

ing hills or mountains, going over bridges, hiking in valleys, in observing nature. Welcome their enthusiastic reports on such discoveries. Different seasons of the year are significant to children and will stimulate them to creative interpretations.

Sample motivation: Searching for Easter eggs in the back yard. *Introduction to situation:* Ask children to give a vivid description of the back yard: Is it flat? Is it hilly? Are there trees? Are there flowers? What kind? Are there bushes? Where are they? Where is your lawn? Where did you search? How did you search? Let children dramatize the scene of searching and finding the eggs. Stimulate their consciousness by actions. *You are urged to read pages 403 to 408 to better understand this chart.*

AREA	A FEW TOPICS FOR MOTIVATION	SUGGESTED ART ACTIVITIES	SUGGESTED MATERIALS	DESIRABLE OUTCOMES (on the part of the children)
Living In The Home	We have a surprise party for Dora We hang our wash on the line We plant seeds in our garden We gather flowers near the fence We help mother clean house	(Refer to Grade II) Color games. Make colored murals as group activities on large roll paper. Recognize childlike qualities of beauty in art and never impose adult standards. Encourage free expression. Class may draw from poses: "Girl on scooter," "Boy with rabbit," "Children dancing," etc., at choice of class and teacher. Color related to subject matter. Ability to interpret meanings of pictures and illustrations. Creative design applied to mats, programs, booklet covers, Indian rugs, wall hangings, etc. Booklets made on various subjects with decorated covers. Simple patterns in color with several lettered words. Beautify articles as gifts and as holiday decorations for schoolroom. Draw and model animals, plant forms, birds, buildings, other objects in color for units of study. Art as related to music, health, literature, social studies, factual material. Creative and imaginative art work always to be encouraged. Stencil simple designs on paper, textiles. Weave: paper baskets, coasters, etc. Construct: hand puppets, kites, button bag, calendar, etc. Suggested Units: A Pilgrim	String Powder paint Cork Sponges Rubber Cement Plywood Newsprint Ribbons Bags Soap Paper Raffia Buttons Yarn Beads Seeds Thread Wire Plaster Textiles Wood Nails Water colors Scissors	DESIRABLE OUTCOMES (on the part of the children) COLOR Children distinguish colors in mixing. Use colors to depict feelings of happiness, sadness, liveliness, dullness, etc. DECORATION Representation of a variety of sizes and shapes. Repetition and alternation of sizes and shapes are now beginning. ILLUSTRATION A keener recognition of details. Top and side, inside and outside of objects frequently shown on same drawing. Objects or details often shown in individual's own method of representation. LETTERING Greater consciousness of spacing, and straight lines. Use of upper and lower case letters. Able to make simple signs and posters as: "Brush Your Teeth," "Wear Your Rubbers."
	We play housekeeping We play school We roller skate We dress like older people			
What We Like	We like pictures in our book We like our yellow baskets We like our red sleds We like our purple flowers We like colored curtains			
	We eat our lunch We wash our blackboard We use our pencil boxes We read school books We feed our canary			

How We Go Places	We ride the bus to the fair We walk home from church We pull our sleds We roller skate to the store We ride on the truck with Father	Cabin, Indian Village, Stock Farm, Broadcasting Station, etc. Endeavor to keep the children happy and the room bright, cheerful, and attractive.	Colored paper Clay Colored chalk Crayons Finger paint Pencils Felt Leather Etc.	MODELING Child more conscious of realistic shapes but accuracy in modeling not expected. Subjects center about self, home, school, pets, etc., widen somewhat. Color is added freely to modeling.
What We Make	We make Halloween masks and costumes We make a doll's house We build our community (replica) We make a little book We make a gift for Grandma	A FEW SUGGESTIONS FROM WORK DONE BY ARTISTS: <i>Paintings</i> Behind the Plow—Kemp-Welch The Fog Warning—Homer Annunciation—Fra Angelico Mme. Charpentier and Children—Renoir Blue Horse—F. Marc The Washerwoman—Daumier A Young Girl—Renoir The Blue Vase—Cezanne <i>Sculpture</i> The Bathers—Rodin Paulina—Paulanship Running Elephant—Huntington	Movies relating to grade level. Slides (2" x 2"). Many colored reproductions of painting, sculpture, etc. See index for firms handling movies, slides, and reproductions, or see your local dealer.	CRAFTS Motor and visual coordination reasonably developed. Use and care of tools: hammer, saw, scissors, etc. Use of great assortment of materials. Making: abstract forms, puppets, doll clothes, peep boxes, stage sets, doll furniture, doll house, etc.
How We Play Together	We skate on the pond We take turns on the slide We jump rope We swing under the tree We have a peanut hunt We go to the carnival		Collect many articles for The "Fun Box" Page 427.	APPRECIATION A keener enjoyment of color, form, and line in nature and in art. Awakened understanding of different techniques involved in art expression: drawing, painting, sculpture. An added vocabulary of meaningful art terms. A growing understanding of works of art as seen in pictures and in reality.
We Are Good Citizens	We collect waste paper We are Cubs or Brownies We look for traffic lights We play only in safe places We put candy wrappers in the wastebasket	Arrange and encourage trips to galleries, art exhibits, and museums. Endeavor to keep an ever-changing display of selected reproductions before the class. Acquaint children with local handicrafts, work of artists, craftsmen, and manufacturers. Make art a part of their lives and of their learning activities. See bibliography for books to aid in your instruction. Attend art conferences, workshops, and meetings. Keep abreast of the latest art education literature.		INDUSTRIAL ART Derives pleasure from use of color, which he has mixed, applied to decorative borders, all-over patterns, etc., to things he has made.
How We Reach Others	We laugh at the funnies We mail a package We collect Red Cross parcels We send Christmas boxes			

SOME EVIDENCES OF GROWTH: Third Grade children will evidence: (a) awareness of a greater and wider environment; their world should be constantly expanding, (b) realization of characteristics, changes, and differences within the bounds of their community; people, buildings, playgrounds, roads, hills, streams, valleys, etc., (c) preference in making their art-creations more concrete, and generally, more realistic, (d) realization of differences of shapes, (e) interest in constructing, although there is slight evidence that they make use of the proper choice of materials, (f) a beginning to use color effectively, with sureness and satisfaction. Color theory, as such, is of little value or interest.

GRADE IV

For Grade IV children, it is important to remember that they desire to form gangs. This should be supported by cooperative group activities. In the center of the motivation are activities grouped around the words "WE ARE" (making, doing, building, etc.). Therefore, techniques and materials should be chosen which permit cooperative undertakings. Children's growing awareness of their independence as well as their ability for leadership should be encouraged through work in committees. At the same time, the desire for exploration in groups should be supported by activities which, either by method or through topic, or both, relate to research experiences. Children's understanding of the use of materials and various occupations achieves broader meaning because they are more objective.

Sample motivation: "We are all planning a city." *Introduction to situation:* Of what different districts does a city consist? Write the different districts on the blackboard. (Residential, shopping, industrial, theatrical, recreational, etc.) Elect com-

mittees to work on the different districts. Each committee chairman now takes charge of his co-workers concerning their own assignment (homes, stores, mills, churches, theatres, schools, apartments, etc.). The committee chairman distributes the materials and asks members of his committee to choose their type of work. Meantime, a committee has prepared a big chipboard on which all things will be assembled. After all parts are prepared, assembling begins. The committees first discuss the planning of the city. The assembling then takes place. Each child pastes his own cutting on the board—until the whole city is assembled. Questions will arise as to where the church should be located—or whether it is wise to paste a green house close to a purple one. Where should the parks be located? etc. Such a suggested activity gives opportunity for leadership, group cooperation, and develops sound democratic action on the part of all. To pass the part of Chairman to children needing leadership-training is a wise procedure. *You are urged to read pages 403 to 408 to better understand this chart.*

AREA	A FEW TOPICS FOR MOTIVATION	SUGGESTED ART ACTIVITIES	SUGGESTED MATERIALS	DESIRABLE OUTCOMES (on the part of children)
Living In The Home	We plant a garden We wash our clothes We feed the animals We cut out pictures We clean our back yard	Refer to Grade III since no set line is drawn between primary and intermediate grades. Encourage children to be creative, to work within own (never adult) standards. Encourage sincere effort in thinking and doing so that their results are never inferior. Children should ask for and receive help, but an overemphasis on any special techniques may prove a handicap. Allow children to develop as rapidly as they can, and they will come to realize that art is a vital and live part of their lives. Often their drawing ability will slump in Grade IV because they can observe better than they have ability to draw or construct. Endeavor to stimulate pride in work. Make a large notebook (decorate cover) for collection of trees, birds, insects, dogs, etc. Suggest a "hobby book" which they make at home; display these books at end of year in school. Employ stick printing, clay modeling, large murals, puppets, linoleum, printing on textiles, home decoration. Many abstract designs. Develop good habits in regard to care of brushes, tools, and materials. Encourage art work done <i>at home</i> . Hold exhibitions of home work as well as art done in	String Powder paint Cork Sponge rubber Cement Plywood Nails Ribbons Bags Water colors Finger paint Soap Paper Raffia Buttons Yarn Beads Seeds Thread Wire Plaster Textiles Wood Scissors Colored paper Clay Colored chalk	COLOR Through experience, children should learn dark and light colors; color gradation; pleasing color combinations; how to group colors; to distinguish between shades and tints of colors. Develop color sensitivity. DECORATION Consciousness of pattern, of order and rhythm. Light and dark in design motifs; understanding of space-filling. Cooperation in group projects is a sign of growth. ILLUSTRATION Awareness of relative size of near and far objects; realism is stressed by children; action drawings are preferred; development of graphic vocabulary.
How We Play	We make kites, pinwheels, sailboats We build a shack We go on a nature hike We play ball or swing under trees We play cowboy and Indians			
What We Like	We like red hair ribbons We like orange cushions We like two-colored cars We like silver airplanes We like golden slippers			
What We Use	We paint our house We hang up our clothes We keep the coal bucket or wood box filled We husk corn, shell peas, or pick fruit We make a (frieze) mural of "From Wheat to Bread"			

How We Travel	We build a model airport We make models of boats and airplanes We ride to school on our bikes We go by bus to museums, art galleries, etc. We learn about travel in Mexico, South America, Alaska	school. Endeavor to keep the children happy and the room neat, clean, and attractive. A FEW SUGGESTIONS FROM WORK DONE BY ARTISTS: <i>Paintings</i> Cornfields in Provence—VanGogh Indian Harvest—Couse Madonna del Granduca—Raphael Winter—P. Brueghel Coming of the White Man—Reid Stone City—Wood The Laurent Pony Cart—Karfiol Summer—H. Rousseau <i>Sculpture</i> Dancer and Gazelles—Manship The Windy Doorstep—A. L. Eberle The Egyptian Cat—Unknown <i>Architecture</i> The Cathedral of Learning—Pittsburgh The Arch of Constantine—Rome The Parthenon—Athens, Greece Teachers are urged to select reproductions from prints made by the Metropolitan Museum, N. Y., or from books: <i>Folk Art of Rural Pennsylvania</i> by Frances Lichten, Scribner, N. Y., 1946 or <i>Design Motifs of the Pennsylvania Germans</i> by I. L. Francesco, Prang Publishing Co., Sandusky, Ohio, 1947. See bibliography for books that will aid your art program in detail. Endeavor to keep an ever-changing display of selected reproductions before the class. Attend art conferences, workshops, and meetings. Keep abreast of the latest literature in art education.	Crayons Pencils Felt Leather Thin wood Etc. Slides (2"x2") Films on grade level subjects. Many large colored reproductions. See center column for suggestions and see your local dealers or consult Index, page 431 for reproductions, and the bibliography lists for prints, movies, film strips and slides. Collect many articles for the "Fun Box." Page 427.	LETTERING Keen sense of good arrangement in pages. Margins are observed; use and recognition of upper and lower case letters. MODELING Group participation is sought by children; spurt toward realism is evident. Wide scope projects preferred by pupils. APPRECIATIONS Preference for cheerful surroundings; rooms, bulletin boards, etc. Consciousness of phenomena of nature: snow, rain, hail, fog, rainbow, sunset, green grass, etc. Children will show various degrees of appreciation. CRAFTS Industrial preferences noticeable. Cooperative instincts well developed. Degree of accuracy and eagerness to achieve good results. Variety of activities preferred. Care, use, and skill in handling variety of tools increasing somewhat. INDUSTRIAL ART Receives satisfaction from originating color combinations and design motifs to fill spaces on things he has made.
What We Make Together	We plan a better community We make a fair or a circus We make a mural of a market We illustrate a poem or story We make a movie strip showing Pennsylvania birds	<i>Paintings</i> Cornfields in Provence—VanGogh Indian Harvest—Couse Madonna del Granduca—Raphael Winter—P. Brueghel Coming of the White Man—Reid Stone City—Wood The Laurent Pony Cart—Karfiol Summer—H. Rousseau	Films on grade level subjects. Many large colored reproductions.	MODELING Group participation is sought by children; spurt toward realism is evident. Wide scope projects preferred by pupils.
People We Meet	We meet the: policeman, barber, doctor, nurse, shoemaker, etc. We meet: farmers, builders, miners, threshers, etc. We see the parade: costumes, clowns, horse-men, bands, baton twirlers, organ grinders, etc.	<i>Sculpture</i> Dancer and Gazelles—Manship The Windy Doorstep—A. L. Eberle The Egyptian Cat—Unknown <i>Architecture</i> The Cathedral of Learning—Pittsburgh The Arch of Constantine—Rome The Parthenon—Athens, Greece	See center column for suggestions and see your local dealers or consult Index, page 431 for reproductions, and the bibliography lists for prints, movies, film strips and slides. Collect many articles for the "Fun Box." Page 427.	APPRECIATIONS Preference for cheerful surroundings; rooms, bulletin boards, etc. Consciousness of phenomena of nature: snow, rain, hail, fog, rainbow, sunset, green grass, etc. Children will show various degrees of appreciation.
We Are Good Citizens	We have a fire drill at school We help collect waste paper We march in Memorial Day or Fourth of July parades We are kind to dumb animals We decorate our houses, bikes, and wagons for July Fourth	Teachers are urged to select reproductions from prints made by the Metropolitan Museum, N. Y., or from books: <i>Folk Art of Rural Pennsylvania</i> by Frances Lichten, Scribner, N. Y., 1946 or <i>Design Motifs of the Pennsylvania Germans</i> by I. L. Francesco, Prang Publishing Co., Sandusky, Ohio, 1947. See bibliography for books that will aid your art program in detail. Endeavor to keep an ever-changing display of selected reproductions before the class. Attend art conferences, workshops, and meetings. Keep abreast of the latest literature in art education.	Crayons Pencils Felt Leather Thin wood Etc. Slides (2"x2") Films on grade level subjects. Many large colored reproductions.	CRAFTS Industrial preferences noticeable. Cooperative instincts well developed. Degree of accuracy and eagerness to achieve good results. Variety of activities preferred. Care, use, and skill in handling variety of tools increasing somewhat.
How We Reach Others	We visit: newspaper plant, radio station, post office, Western Union, television station We make illustrations for our school paper We build a score board for sports We make safety, health, and crippled children posters We make signs for our play	<i>Paintings</i> Cornfields in Provence—VanGogh Indian Harvest—Couse Madonna del Granduca—Raphael Winter—P. Brueghel Coming of the White Man—Reid Stone City—Wood The Laurent Pony Cart—Karfiol Summer—H. Rousseau	Films on grade level subjects. Many large colored reproductions.	INDUSTRIAL ART Receives satisfaction from originating color combinations and design motifs to fill spaces on things he has made.

SOME EVIDENCES OF GROWTH: A real understanding of *cooperation* in which the single child experiences the fact that what he himself could not do alone has been done by the group. The meaning of overlapping will naturally grow out of the technique of paper-cutting. Through the awakening of cooperation, the children will become interested in building together, playing together, and sharing with others.

The meaning of the proper distribution of labor and the meaning of different professions will be better understood. From this, his interest in sports and the necessary team work connected with them will arise. In group work, cooperation becomes an active part of creative experience.

GRADE V

In Grade V, from the desire to form groups (gangs), the child should be motivated in his understanding of the meaning of cooperation among individuals, groups, and peoples. These broader aspects of cooperation will awaken in the child the desire to learn about people and their cultures, their different forms of living according to environment, climate, and social conditions. Interest may be aroused in the different ways that people dress for occasions and purposes in various climates in far-off countries. This will awaken in the child an interest in architecture in relationship to purpose, function, climate, and material used. This may lead to a better understanding of decorative design and patterns. The making of puppets, models of villages in different parts of the world, the dramatization of the life of different peoples, and the creation of mural decorations are by-products of experiences.

Motivation in regard to visual aspects, such as the discovery of the diminishing size of distant objects, should be done with care. Not all children arrive at this concept. To some children, the significance of things and their emotional relationship to environment is of greater importance than their visual experience in nature.

Generally speaking, children at this level are more critical of their art productions, and their desire to represent, construct and design more realistically and accurately has increased. These children should be given opportunity to evaluate their own work frequently.

Sample motivation: Life and Boating on the Amazon River. *Introduction to situation:* In what country is this river? Is it a narrow or a wide stream? What kind of people live here and what do they produce? What kind of boats do they use and what do they transport? Are the animals, fish, trees, flowers, and birds there like the ones you have at home? Is the climate there like our climate here? What kind of clothing do the people wear and what kinds of food do they eat? What are some of the things you would see there if you had a boat trip on this river? How would you like to form groups and committees and show this in art? In what ways would you like to work together? What would you, personally, like to do? *You are urged to read pages 403 to 408 to better understand this chart.*

AREA	A FEW TOPICS FOR MOTIVATION	SUGGESTED ART ACTIVITIES	SUGGESTED MATERIALS	DESIRABLE OUTCOMES (on the part of the children)
Home	Design and arrange own room Evolution from old to modern kitchen and living room Evolution of illumination, heat, water supply, from pioneer to modern homes We improve our back yards We make an outdoor oven	(Refer to Grade IV). Children develop a sense of pattern. Encourage designs having a center of interest. Use color freely in design, all-over patterns, and illustrations. Effective designs, signs, mottoes, monograms, and posters may be made in color. Illustrations and construction to be in keeping with and related to work in history, geography, science, music, and other subjects. Make murals of "Desert People," "Western Movement," "Life in the Arctic." Make a very large map of the U. S. as a project adding illustrations of products in various states. Encourage the collecting instinct. Illustrations of leaves, flowers, birds, animals, fish, boats, plants, etc., for notebooks. Make large murals. Have art programs in assembly. Organize an art exhibit. Endeavor to keep the room tidy and the children happy. Encourage out-of-school art production "for fun." Discourage art appears at this level; therefore, there is need for kindly guidance. Posters of cut or drawn letters. Introduce lettering depicting word meaning; strong, weak, rough, smooth, etc. Cut stencils for	Pencil Paper Crayons Clay Scissors Powder paint Newsprint Corrugated paper Thin wood Textiles Plaster Wire Thread String Seeds Buttons Beads Paper bags String Cork Sponge rubber Cement Finger paint Raffia Yarn Colored paper Chalk	COLOR Children will distinguish color differences in near and far objects; conscious of color moods; dull, bright, cheerful, sad, etc. Work is free, relaxed, easy. Color contrasts are realized. Use of subdued colors (grayed) is often encountered. DECORATION Controlled movements of brush is natural. Color choice for "effect" is often the aim. Purpose of design is realized to a degree. Motifs within limited area are preferred by children. ILLUSTRATION A degree of realism appears; size and relationships are more evident. Interest in nature is evident.
Recreation	American sports: Tennis, croquet, skiing, bobsledding, fishing, etc. Activities in public parks: skating, sailing, boating, picnicking, playgrounds, games, etc.			
What We Like	We like to match colors We like nice clothes We like colorful homes We like neat parks We like a clean, neat school We go on art trips			
Consumption	Products of America: Coal, cattle, iron, cotton, timber, grain, oil, furs, etc. Modern materials for modern living. Recent inventions. Clothing for sports, uniforms. Food distribution. Building trades: carpenter, plasterer, plumber, brick and stone mason			

Transportation	<p>A vacation trip on a bicycle Imaginary trip to the moon on a rocket Trip on a streamlined train Trip on river boat, through tunnels, bridges, on super highway The evolution of transportation</p>	<p>simple posters and cards. Encourage originality. Stress choice of suitable colors. Models of shelters, utensils, musical instruments, barns, bridges, etc. Plan and furnish a modern American home. Make scenery for school play. Cloth decoration with block and stick printing.</p> <p>A FEW SUGGESTIONS FROM WORK DONE BY ARTISTS:</p> <p><i>Paintings</i> Louisiana Rice Fields—Benton The Primitive Sculptor—Couse Sistine Madonna—Raphael Russian Winter—Grabar The Sewing School—Artz The Coffee Bearers—Portinari The Santa Fe Trail—Young-Hunter Threshing—Nash</p> <p><i>Sculpture</i> Immortal Indian—Mestrovic Deacon Chapin—St. Gaudens Discobolus—Myron</p> <p><i>Architecture</i> Independence Hall—Philadelphia Empire State Building—New York Notre Dame Cathedral—Paris</p> <p>Teachers are urged to select reproductions from the prints made by the Metropolitan Museum of Art, New York, and such books as: (a) <i>Folk Art of Rural Pennsylvania</i>, by Frances Lichten, Scribner, N. Y., 1946. (b) <i>Design Motifs of the Pennsylvania Germans</i>, by I. L. deFrancesco, Prang Publishing Co., Sandusky, Ohio, 1947. See bibliography for books that will aid your art program in detail. Endeavor to keep an ever-changing display of select reproductions and art exhibitions before the class. Attend art conferences, workshops, and meetings. Keep abreast of late art education literature.</p>	<p>LETTERING Word meanings, as "strong", "weak", etc., are realized through applications to projects. Originality in design is also clear. Control and knowledge of different types of lettering.</p> <p>MODELING Conscious of textures; a degree of understanding of action, postures, and mood. Attempts toward realistic appearance.</p> <p>APPRECIATION Individual and group pride in arrangement of art objects, bulletin boards, and rooms. Participation in selection of art objects, color, etc.</p> <p>CRAFTS Control of material is developing. An understanding of materials and their purposes is evident. Utility is appreciated. Preference for variety and experimentation. Use, care, and handling of many simple tools have developed to a reasonable degree.</p> <p>INDUSTRIAL ARTS Enjoys working in color and design motifs for the "effect" they produce when applied to things he makes.</p>
Production	<p>A booklet of characteristic places in our community An illustrated log of our trip by boat, plane, bicycle Models of our modes of travel Illuminations of famous quotations Bookmarks, pottery, paperweight, desk pads, etc.</p>		<p>Many large colored reproductions. See center column for suggestions.</p>
Group Life	<p>Choruses, orchestras, bands, etc. Competitive athletic events Harvesting: potatoes, corn, apples, berries, grapes Building snow forts, shacks, snow sculpture Excursions to dairies, waterworks, fire house, college, etc.</p>	<p>See Index for firms or your local dealer handling reproductions, movies, slides, etc. Pages 429 and 431.</p>	
Citizenship	<p>Educational excursion to city and county government Parades: I Am an American Day, 4th of July, Labor Day, Pennsylvania Week, Paint-up and Clean-up Week. Conservation: Fire precaution, forests, flood control, waste Care and respect for public property</p>	<p>Collect many articles for the "Fun Box". (Page 427).</p>	
Communication	<p>Exchange of season greetings with children abroad Inventions: telegraph, television, radio, telephone Layout of an advertisement Development of graphic language. Sound communications: bell, siren, bugle, whistle, drums, recordings, etc.</p>		

SOME EVIDENCES OF GROWTH: In Grade Five, the art activities should develop a sense of relationship to a broader understanding of peoples of this country, their cultural contributions, the decorative designs on their costumes, the types and materials of which their shelters are made. The discovery of the diminishing size of distant objects is evidenced. Pupils' power of visual awareness is constantly increasing.

GRADE VI

In Grade VI, the greater desire for observation should be motivated by hikes, by discussing observations of people; their differences and their expressions. The most important psychological factor is that the child will become critically aware of his inability to draw or paint according to his greater realistic concept. The child will soon recognize that his way of creating is unsatisfactory to him.

Motivation during this important period must be based upon the preparation of the child for his developing critical awareness of his own art production. Skills and techniques, especially in crafts, assume a new importance. During this period, it becomes increasingly worth while to acquaint the child with the different art products of various periods and cultures. This should develop in the child a flexible approach toward art expression. It shows him how different peoples have experienced their worlds differently. It is the teacher's task to show the child that *there is no one single accepted way of drawing, painting, modeling, or sculpturing*. It is the interpre-

tation of the individual experience that counts. An African sculptures "a man" in a way that differs from the way of the Greek sculptor, and he in turn differs in technique from an American sculptor. While some children tend toward visual and realistic interpretations, others will prefer expressive and emotional interpretations. Both groups need the necessary motivation. A good motivation, therefore, should contain both visual and emotional stimulation.

Sample motivation: A Mexican market. Introduction to situation: What are the people doing? How are they dressed? From what kind of houses did they come? Are their clothes dull or colorful? What kind of things are they selling? Are any of these articles hand made? Is it a hot or cold day? How would you feel if you were attending this sale? Are there animals about? Is the sale indoors or in the open? What is in the distance? What is near by? Do the people bargain? Do they seem excited? You are urged to read pages 403 to 408 to better understand this chart.

AREA	A FEW TOPICS FOR MOTIVATION	SUGGESTED ART ACTIVITIES	SUGGESTED MATERIALS	DESIRABLE OUTCOMES (on the part of the children)
Home Life In Other Lands	Home life in South and Central America, Mexico, and Alaska. Life in other countries of contemporary vital interest.	(Refer to Grade V). Review color requirements for former grades. Children plan a puppet show. They write their own play in English class, design, make puppets, present show in assembly, etc., as a class project. Suggested work in murals, illustration, models, etc.: A panorama of Aztec Indian life, life in New York, hot land life, wet land life, Negroes at work in cotton fields, fur trappers and their world; caravan on the desert; a series of costume plates showing garments worn in Alaska, Mexico, Central America, South America. Boats of many lands or a picture history of water transportation; great inventors and their contributions. How we could improve our community (town, city) in planning streets for better traffic conditions, beauty, etc. Weaving a purse, hot pad, small rug, or blanket. Make papier mâché masks or replicas of animals, reptiles or birds, realistic or imaginative, and paint in bright decorative colors. Potato or linoleum block print, textiles for wall hangings, table or burlap covers, curtains or cushion covers. A wallpaper design using western cowboy ranch and round-up. <i>Activities:</i> Make a letter project of rules of courtesy for travelers, for business, for school, for home. Decorative covers for scrapbook portfolios of local historical sites and happenings in our community. Avoid imposing adult standards on	String Powder paint Finger paint Cork Sponge rubber Nails Cement Plywood Ribbons Bags Paper Raffia Buttons Yarn Beads Nails Soap Seeds Thread Wire Plaster Textiles Thin wood Paint Scissors Colored paper Wallpaper Clay Colored chalk Crayons Pencils Leather	DESIRABLE OUTCOMES (on the part of the children) COLOR Eager for expression in color. Color terminology: Primary, Secondary, Intermediate. Feeling for warm and cool colors. Increasing awareness of emotional significance of color. DECORATION Conscious of conventional pattern and space-filling. Able to understand meaning of: balance, proportion, emphasis, rhythm, harmony, repetition, alternation, and transition. ILLUSTRATION Realistic-minded children use correct proportions, depth, and three dimensions, and much detail. Expressionistic-minded children use proportion according to the importance they attach to the work. They illustrate only what is important to them. Children use three-quarter views of figures. Draw hands and feet with fair accuracy.
Recreation at Home and Abroad	Games and dances. Competitive sports, festivals and holidays. Thanksgiving, Halloween and Christmas celebrations. Summer and winter sports. Patriotic celebrations.			
Appreciation	Interest in appropriate pictures and other wall decorations, for home and school. Children arrange flowers and bouquets. Discuss modern artists and their work. Bring illustrations to class. Arrange an exhibit of art. Buy appropriate pictures for the school, halls, and rooms. See page 424.			
Food and Clothing	Producing: Wool, cotton, leather, coffee. A threshing scene, boat docks, rubber plantation, and tea cultivation. Textile and rayon industry. Section of our own clothes and accessories.			
Transportation	First experience on a plane. First ride on a streamlined train. An excursion to historic sites in our State. New transportation trails; global geography. On the Pennsylvania Turnpike. See Turnpike Map.			

Production	<p>We make puppets and a stage. We make an archery set. We build a pottery kiln. We have an Indian play; scenery and costumes. We design and make a class emblem. We design costumes, accessories of wood, cloth, plastic, linoleum.</p>	<p>children. Endeavor to keep the room tidy, and the children happy.</p> <p>Personal letters, well planned and illustrated. Cut linoleum blocks for party announcement or invitations. Keep the interest in the Western Hemisphere. Construct diorama of life in Alaska, Mexico, South America, etc. Construct and decorate pottery. Make a loom and weave rugs, coverlets, etc. Carve plaster of Paris blocks or tiles.</p>	<p>Feathers</p> <p>Many discarded materials.</p> <p>Slides (2" x 2").</p> <p>Films on grade level subjects.</p> <p>Many colored reproductions.</p> <p>See list of firms, on page 429 or consult your local dealer for reproductions, movies, slides, etc. Collect many articles for the "Fun Box", (page 427).</p>	<p>LETTERING</p> <p>Familiar with more than one alphabet, decorative capitals and initial letters. Handle lettering pen with fair accuracy. Can control cutting tools and plan creditable poster designs.</p>
Group Life	<p>Our class goes on a sketching trip to the country. Our class designs and paints murals of our community. We make interpretations of our camp trip. Our class plans, organizes, collects and displays a collection of South American art and craft.</p>	<p>A FEW SUGGESTIONS FROM WORK DONE BY ARTISTS:</p> <p><i>Paintings</i></p> <p>PrinceRidinganElephant—Old Manuscript</p> <p>Penn's Treaty—West</p> <p>Flight into Egypt—Giotto</p> <p>The Blue Boy—Gainsborough</p> <p>The Boy Lincoln—Johnson</p> <p>Emigration of Boone—G. C. Bingham</p> <p>The Sand Cart—Bellows</p> <p>The Flower Vendor—Rivera</p> <p><i>Sculpture</i></p> <p>Lincoln—St. Gaudens</p> <p>Indian Hunter—Manship</p> <p>The Thinker—Rodin</p> <p><i>Architecture</i></p> <p>Lincoln Memorial—Washington, D. C.</p> <p>Pennsylvania State Capitol—Harrisburg</p> <p>The News Building—New York</p> <p>Teachers are urged to select reproductions from prints made by the Metropolitan Museum, N. Y., and from <i>Folk Art of Rural Pennsylvania</i>, by Frances Lichten, Scribner N. Y., 1946, or <i>Design Motifs of Pennsylvania Germans</i>, by I. L. deFrancesco, Prang Publishing Co., Sandusky, Ohio, 1947. See bibliography for books that will aid your art program in detail. Endeavor to keep an ever-changing display of selected reproductions, crafts, sculpture, etc., before the class. Attend art conferences, workshops, and meetings. Keep abreast of the latest art education literature.</p>	<p>Many colored reproductions.</p> <p>See list of firms, on page 429 or consult your local dealer for reproductions, movies, slides, etc. Collect many articles for the "Fun Box", (page 427).</p>	<p>MODELING</p> <p>Reasonable awareness of details, textures, and expression. Decorative modeling and relief. Subjects vary greatly with individuals. Children can express action.</p>
Citizen-ship	<p>Our class plans, produces an art program for assembly. We make posters: safety, first aid, health, thrift. We: plan, plant, cultivate, gardens. We: plan, organize and hold a class party. We make Red Cross menus, toys, place cards, etc.</p>			<p>APPRECIATION</p> <p>Understanding and appreciation of various materials used in the arts. Understand correlation with social studies. Children have developed fair control of many media.</p>
Communi-cation	<p>We plan, produce a radio program on "Art in Our Community," "How Art Helps Us," "Pennsylvania Artists," etc. We act in television—a program on "Understanding Our Neighbors through Art." We establish an art exchange with children of Brazil. We use art activities for Pennsylvania Week. We paint or carve a mural decoration of community interest.</p>			<p>CRAFTS</p> <p>Physical control of many materials: wood, plaster, yarn, cardboard, etc. Handling, use, and care of simple tools; hammer, saw, chisel, knife, auger, needle, etc. Knowledge of industrial processes, transportation, consumption, etc., now increasing.</p>

EVIDENCES OF GROWTH: The Sixth Grade child, having experienced the design, and, while he is still less imaginative, he is increasingly aware of the problems satisfaction of handling various media, and having acquired skills to a limited degree, that confront him which require personal application and skill to solve, increasingly becomes more confident in his art. He has had experience in creative

SOME SUGGESTIONS FOR EXTENDING THE ART PROGRAM

Beautify the School

Teachers and school authorities have a responsibility in seeing that their schools are beautiful outside as well as within. Some of the best and most functional lessons are those taught silently by good examples. Not only do attractive buildings, grounds, shrubs, well-trimmed grass, clean walks and well-cared-for playgrounds help to beautify the exterior of the school, they also produce true affection for it, build morale, lower disciplinary problems, and reduce truancy. Offensiveness and ugliness, on the other hand, produced by neglected buildings and grounds, lower the morale, tend to produce vandalism and truancy.

Schoolrooms as a whole, equipment, halls, woodwork, windows, doorways, walls, steps, display cases, bulletin boards, blackboards, and offices, should reflect suitability, cleanliness, and appropriateness to their particular purpose.

Well-lighted rooms and corridors painted in appropriate yet cheerful colors (see footnote at bottom of page 411), will do much to dispel gloom, eliminate eyestrain, and encourage better work.

1. *Pictures*

Well-chosen pictures, hung flat against the walls, reflect beauty. The subjects may vary: history, literature, ancient and modern life, biography, and nature. They should be carefully selected, particularly on the basis of child-age groups and interests. (See list of suggested prints on the charts for various grades, pages 412 to 423.)

2. *A New Picture Project*

School authorities realizing the need for more reproductions might undertake a project that will have for its purpose the acquiring of suitable, well-framed reproductions. This might be considered a school-wide or indeed a community-wide activity. A steering committee could be formed to look after the finances, selection, and hanging of the pictures. Participation may be had from the parent-teacher organizations, women's clubs, service clubs, or other civic organizations. Among many ways the committee may choose to finance the project are plays, musicals, or art exhibitions.

3. *Selecting Reproductions*

Funds having been made available, catalogs of

colored reproductions may be obtained (see list of firms on page 429) and the selection of appropriate subjects made by a committee with the help of an art teacher or supervisor. The choice of reproductions for particular rooms will largely depend on the grade level and the pupils' interests. Modern processes of engraving have made available excellent color reproductions of the great art of the world. Since color brings interest, cheer, and pleasure into otherwise dull and drab surroundings, see that the prints selected are well-chosen in this respect.

4. *Framing the Print*

Frames produce the "setting," enhance and protect the print. Frames should be subordinate to the picture and the moulding chosen for institutional purposes should, in general, be plainer than moulding used in a residence. Simple, well-designed mouldings made from clear oak are good. It is suggested that moulding 3" wide be designed to frame large reproductions, and the same design reduced to moulding 1½" wide be used for framing smaller prints. In many localities well-equipped woodwork milling concerns can make excellent moulding from your own designs, thus producing moulding in strips 10 to 12 feet in length at greatly reduced cost.

The industrial arts department of the high school might be asked to cooperate in the project, using a mitering machine which produces 90-degree precision cutting and allows the moulding to be clamped in place while the corners are nailed. Such a project would, no doubt, interest the industrial arts students. The natural wood frame may then be tinted to the desired color to match the print by thinning oil colors in turpentine and applying to the wood with a brush and wiping off with a cloth repeatedly until the desired effect is produced. When dry, the frame may be waxed and polished. *Elaborate gilt, dust-catching frames are unsuitable for schoolroom purposes.* Prints should be well mounted and if necessary mats of appropriate width and paper stock may be used.

5. *Hanging the Picture*

The size and shape of the picture should conform to the wall space against which it is hung. Hang pictures flat (not tilted) against the wall, suspending them by two wires from hooks at the moulding.

For primary grades, pictures should be hung lower, so as to be seen by the children.

6. *Art Objects*

Plaster reliefs and cast reproductions of great sculpture may be obtained at reasonable prices. The effectiveness depends largely on the size, placing and effective lighting they receive. Good reliefs are to be preferred. Avoid plaster reproductions of paintings.

Growing ferns and other plants enhance the beauty of schoolrooms and offices, and appropriate vases for fresh flowers are a necessity. Cheap and ungainly calendars should be removed and replaced with articles more beautiful and appropriate. Beauty is an investment that pays constant and large dividends.

Art and Your Community

The elementary school child is made aware of the need for community service through creative art activity. The making of signs, posters, and illustrations for the Community Chest Drive, the Clean-up-Paint-up Campaign, safety and health posters, hospital drives, Pennsylvania Week, Art Week, and Education Week, all serve a real need in community life.

To show art to the community during these drives and special weeks, teachers may display children's work and have demonstrations in store windows and in civic and recreational centers. Children's ideas for community improvement, landscaping, and better housing where repulsive alleys and trash heaps exist, are of interest to all citizens. The making and decoration of menu cards and favors for community and veterans' hospitals or for special dinners are not only means of instruction but call attention to many community enterprises.

Teachers may interpret the art program to the community through civic organizations and other clubs, by staging pageants, plays, and puppet shows. Children make their own stage sets, properties, and costumes; the art teacher may address these organizations, explaining the aims and accomplishments. The children and teacher can illustrate these talks with the actual art work made in the classroom and with photographs, slides, and movies.

An interesting way to show the art program is to invite guests to visit the classroom where fine arrangement and order of furniture, equipment,

and art work are evident. The Junior Red Cross program has a wide variety of ideas through which the school not only advertises its good work but helps a great cause. Children can assist the Junior Red Cross in making hand-decorated booklets for children overseas and hand-printed gift wrapping papers. Cooperation with Cubs, Brownies, Scouts, and Camp Fire organizations offers still other means of showing art. Cooperation in the local flower show and other community activities gives children worth-while experience while helping to enhance community life.

A successful plan is to arrange for an Art Fair or Festival in the community. At this show the native arts and crafts of citizens, or exhibit of crafts from the Old World may be displayed. Organize a traveling exhibit of fine pictures or sculpture. Invite artists and craftsmen to lecture and demonstrate their work. Produce a South American fiesta with colorful dances, costumes, and stage sets. These are means of making the community art-conscious, as well as providing interesting entertainment.

Art education should advance standards of taste and should stimulate the desire for better-designed products; it should help customers to buy wisely and merchants to display their wares attractively. To this end, make a display of articles bought in the community which illustrate examples of good design.

The radio and newspaper are constantly on the lookout for news items and for programs which interest the public. They are eager for significant activities of the art department. The alert teacher will make use of these agencies.

In rural districts, the social life is built largely around the school. Encourage people to display their household arts, such as hooked rugs, quilts, and woven articles. The art department may suggest designs of local interest for their handiwork. For the benefit of these folks make a display of the "Picture of the Month" for pure enjoyment.

The art program is further aided by organizing school art clubs, by giving awards on a competitive basis, by sponsoring a fashion show in conjunction with local merchants, and by organizing a Friends of Art Guild which will select, plan, and provide suitable pictures (either originals or prints) for the halls and rooms of the schools.

The presentation of art plays and other productions before school assemblies, service clubs, chambers of commerce, civic clubs, and other organizations will be found helpful.¹

¹Refer to *Bulletin Art Education at Work*, 1947 published by the State Teachers College, Kutztown, Pa.

The making of toys, dolls, doll houses, other playthings and useful and interesting articles for children here or over-seas, cripples, the blind, or persons in hospitals, is a worthy art undertaking. An "Our City Beautiful" column appearing in the local newspaper weekly or monthly, together with pictures of selected local sculpture, architecture, parks or homes, or details of the same, will arouse great interest and appreciation. Children may clip these and mount them in a notebook.

Participation, displays, and publicity are essential in a school program to show art to the public. Theatres, libraries, and store windows are good places for such activities. Where new trends in industrial design and decoration are available, make a fine display of such useful articles. Many communities have school museums. They are started on a small scale but may attain great success.

The art teacher or supervisor is held in high esteem because of knowledge and skill in the arts. Never by word or gesture should he or she indicate unwillingness or impatience with requests for assistance or opinion. By thus participating in the life of the community, he or she will perform a service that will be highly appreciated and, incidentally, add great weight to the value of the arts in education. You may be the only art teacher in your community; make art a vital part of it!

The Art Assembly

One of the most effective ways to teach an entire school or an entire community is by means of dramatics that involve art subject matter. For example such themes as "Color for You," "The Story of the Alphabet," "Looking Our Best," "Our Town Beautiful," or "We Plan a Garden" might be subjects for simple plays or pageants that grade school children can easily produce.

The principles underlying the art assembly are the same as those of other assemblies, namely, they must be interesting, well-staged, well-costumed, and set against effective backgrounds.

The assembly is a vehicle through which large numbers of young people or adults are reached. In a larger sense, it is a means of pointing out certain art principles, facts, and ideas that otherwise may be overlooked. Above all, it is a form of artistic expression involving the organization of ideas—staging, lighting, costuming, and acting.

Art teachers and elementary teachers should avail themselves of every opportunity to provide such programs for their schools, parent-teacher organizations, and other similar groups.

Children will enjoy planning, working, making scenery, making costumes, and acting the parts. For them this is an opportunity to develop artistic talents along avenues that synchronize the arts in an easy and effective manner. For the teacher it is a means of motivating the "play" instincts of boys and girls and of affording them stimulating experiences for other types of artistic adventure.

Bulletin Board Arrangement

A FEW SIMPLE RULES FOR BULLETIN BOARD ARRANGEMENT

1. A well-arranged bulletin board is a *design in itself*. A good center is necessary to catch the eye; choose something with strongly contrasting colors, or dark and light, and place it just above eye level.
2. Balance other relevant material around it, formally or informally.
3. Trim all material neatly, mounting on backgrounds which harmonize with the picture and with the total color scheme. Inconspicuous tones are best but they should be darker or lighter than the bulletin board itself.
4. Space between pictures should be *less* than the space between the group of pictures and the edge of the bulletin board.
5. Change bulletin boards *frequently*, rather than display a great many pictures or clippings at once.
6. Train your students to select, arrange, and change material.
7. Letter captions to explain your material.

MATERIALS

1. Cork board linoleum is the best material for the bulletin board. It will outlast all others, cleans easily with sandpaper, does not show tack marks, and its color is harmonious with most rooms.
2. Celotex, masonite, beaverboard, and monk's cloth are good substitutes.
3. Have on hand thumb tacks, paste, mounting paper, a good lettering pen and a lettering book, with a simple alphabet.
4. File your clippings and illustrative material; allow children to select materials for such a file.

Your bulletin board can set the standard for the entire school; make it a work of art.

HAVING TO DO WITH MATERIALS FOR THE ART PROGRAM

Inexpensive and Discarded Materials

In addition to the regular art supplies obtained from commercial concerns, elementary teachers and supervisors of art have found extensive use for materials that are often discarded. The resourceful teacher will cast about her neighborhood with these definite ends in view, asking and obtaining help from the pupils in collecting an ample storehouse of materials to be used for art experience and expression.

Should there be a wood-working shop in the vicinity, it may offer a possible source from which sawdust, boards, or blocks of hard and soft wood may be obtained. Likewise, waste pieces of felt, leather, burlap, canvas, or other materials might be obtained from firms that manufacture awnings, pennants, bags, clothing, or clothing accessories. Local stores having a floor covering department often throw away waste pieces of linoleum that might be used by the resourceful teacher.

Children will gladly aid in creating such a collection by bringing in discarded paper bags, paper doilies, cardboard, wrapping paper, boxes, boards, excelsior, newspapers, antedated costume jewelry, orange crates, gourds, wire screening, buttons, yarn, etc., to help fill the "*Fun Box*."

Such materials will be of use in creative expression in making: cut-out paper ornaments, posters, labels, stick printing, masks, puppets, necklaces, mittens, murals, paper sculpture, farm, store or post office projects, dress accessories, greeting cards, toys, stuffed animals, wooden animals, costume dolls, place cards, book jackets, table mats, peep boxes, white crayon and dye batik, woven articles, and a host of other things to which color and design have been added to serve as valuable art experiences. These experiences should overflow from the school into the home, and children should be encouraged to use these means of expression during vacations and during summer months.

"FUN BOX" ARTICLES

A suggested list of articles follows which may be collected by the energetic teacher and her pupils for the "*Fun Box*." (The list may be greatly extended.)

Aluminum foil	Gourds	Rubber bands
Ball bearings	Hat boxes	Rubberized cloth
Barrel hoops	Hooks	Rug yarn
Beads	Inner tubes	Safety pins
Belts	Isinglass	Sand
Blankets	Jar	Sandpaper
Bottles	Jugs	Sea shells
Boxes	Lacing	Sealing wax
Bracelets	Lamp shades	Seeds
Braiding	Leather remnants	Sheepskin
Brads	Linoleum	Shoe laces
Brass	Marbles	Shoe polish
Brooches	Masonite	Snap
Buckles	Metal foil	Soap
Buckram	Mirrors	Sponges
Burlap	Muslin	Spools
Buttons	Nails	Steel wool
Candles	Necklaces	Stockings
Cartons	Neckties	Sweaters
Canvas	Oilcloth	Tacks
Celluloid	Orange sticks	Tape
Cellophane	Ornaments	Thread
Celotex	Pans	Tiles
Chains	Paper bags	Tin cans
Chalk pieces	Paper boxes	Tin foil
Chamois	Paper, cardboard	Tongue depressors
Clay	Paper, corrugated	Towels
Clock spring	Paper dishes	Tubes
Cloth	Paper doilies	Twine
Colored pictures	Paper napkins	Wall board
Confetti	Paper, newspapers	Wax
Containers	Paper, tissue	Window blinds
Copper foil	Paper towels	Wire
Cord	Paper, tracing	Wire eyelets
Corn husks	Paper tubes	Wire hair pins
Corn stalks	Paper, wallpaper	Wire hooks
Costume jewelry	Paper, wrapping	Wire mesh
Crayon pieces	Phonograph records	Wire paper clips
Crystals	Photographs	Wire screen
Emery cloth	Picture frames	Wire staples
Excelsior	Pine cones	Wooden beads
Eyelets	Pins	Wooden blocks
Felt	Pipe cleaners	Wooden boards
Felt hats	Plastic board	Wooden clothespins
Fibre	Plastic	Wooden dowels
Flannel	Plastic paint	Wooden sticks
Flit gun	Pocketbooks	Wool
Floor covering	Reeds	Yarn
Gimp	Ribbon	Zipper
Gimp nails	Rings	
Glass	Rope	

Movies and Slides Help You

There is a general trend towards ownership and use of color slides 2"x2", and 3 1/4"x4", 35mm film strips, and 16mm motion pictures for classroom instruction. It is predicted that many counties of the Commonwealth will own, maintain, and circulate such lending libraries. Many institutions already support such a service. Films on new sub-

jects are being released constantly. To keep up to date you are referred to these current publications:

- Educational Screen* (monthly except July and August).
64 E. Lake Street, Chicago, Ill.
Educational Films Guide (annual). The H. W. Wilson Co.,
950 University Avenue, New York, N. Y.
Educators Guide to Free Films by Educators Progress
Service, Randolph, Wisconsin.
Selected Educational Motion Pictures. American Council
on Education, 744 Jackson Place, Washington, D. C.
*Pamphlet 80 (Sources of Visual Aids for Instructional Use
in Schools)*. U. S. Office of Education, Supt. of Docu-
ments, Washington, D. C.

SOME SOURCES OF FILMS, STRIPS, AND SLIDES

The following institutions maintain lending libraries and issue catalogs which will explain the particular service which they render:

Free

- Bucknell University, Lewisburg, Pa.
Pennsylvania College for Women, Pittsburgh, Pa.
State Teachers College, Bloomsburg, Pa.
State Teachers College, Indiana, Pa.
State Teachers College, Kutztown, Pa.
State Teachers College, Millersville, Pa.
State Teachers College, Shippensburg, Pa.
State Teachers College, Stroudsburg, Pa.
The Pennsylvania State College, State College, Pa.

Rental

- Buffalo Museum of Science, Film Service, Trenton,
New Jersey
Kunz Motion Picture Service, Philadelphia, Pa.
Kunz Motion Picture Service, Scranton, Pa.
Lilley, J. P. & Son, 277 Boas Street, Harrisburg, Pa.
Metropolitan Museum of Fine Arts, Film Service,
New York City
New Jersey State Museum, Film Service, Trenton,
New Jersey
Syracuse University, Film Library, Syracuse, New York.

Art Slides (3½" x 4")

Slides may be borrowed from the following sources, each of which issues catalogs:

- Carnegie Institute, Dept. of Fine Arts, Forbes Street,
Pittsburgh, Pa. (free)
Pennsylvania State Library, Extension Division,
Education Bldg., Harrisburg, Pa. (free)
Metropolitan Museum of Fine Art (Slide Division),
New York 28, N. Y.

Slides and Film Strips

- American Library Color Slide Co., 222 W. 23rd Street,
New York 11, N. Y. (slide rental)
American Council on Education, 744 Jackson Place,
Washington 6, D. C. (slides)
Keystone View Co., Meadville, Pa. (sells slides)
Prothmann, Dr. Konrad, 7 Soper Avenue, Baldwin,
L. I., N. Y. (sells slides)
Society for Visual Education, Inc., 100 E. Ohio Street,
Chicago 11, Ill. (rents, sells, film strips, slides)
The Jen Handy Organization, 2900 E. Grand Blvd.,
Detroit, Michigan (sell film strips, movies)
The Three Dimension Company, 500 Dearborn Avenue,
Chicago 11, Ill. (slides and film strips)

16mm Movies

Each of the following suggested 16mm films contains *art quality* instruction. Choose the film by catalog number and rent or buy it from one of the firms listed below. Note: There are a number of film libraries in Pennsylvania, but they may not carry each film mentioned.

TITLE	NUMBER OF REELS	SOUND OR SILENT	ORDER BY CATALOG NUMBER
Child Explores His World	2	silent	Ts 17
Churches and Cathedrals	1	sound	Bsd 191
Clay to Bronze	3	silent	Hs 2
Colonial Children	1	sound	Rsd 124
Dawn of Art	1	silent	Ms 208
Dawn of Art	1	sound	Msd 781
Early Settlers of New England	1	sound	Rsd 145
Fountains, Gardens and Statues	1	sound	Bsd 193
Give Me Liberty	2	sound	Psd 137
Glass Blowing	1	silent	Es 161
Indian Temples	1	sound	Psd 337
Little Swiss Wood Carver	1	silent	Co 20
Living Flowers	1	sound	Msd 725
Making Clay Portrait	1	sound	Msd 476
Making a Linoleum Block	1	silent	Ms 121
Mask Making	1	silent	Bs 20
Matchstick Cartoon No. 1 (figures)	1	sound	Msd 731
Matchstick Cartoon No. 2 (action)	1	sound	Msd 732
Matchstick Cartoon No. 3 (heads)	2	sound	Msd 733
Matchstick Cartoon No. 4 (animals)	1	sound	Msd 734
Matchstick Cartoon No. 5 (clothes)	2	sound	Msd 735
Matchstick Cartoon No. 6 (story)	1	sound	Msd 736
Movies, You Can Make Good	4	silent	Ts 2
Nature Wonders, Filming	1	sound	Psd 276
Novelty Shop	1	sound	Psd 239
Plaster Cast, How to Make	1	silent	Ts 11
Pottery Making in Indian Pueblo	1	sound	Msd 844
Rainbow Pass (Chinese drama)	1	sound	Psd 34
Sand and Clay	1	silent	Es 146
Secrets of the Sea	1	sound	Msd 868
Spinning Wheel (pioneer art)	1	sound	Msd 308
Stone and the Sculptor	1	sound	Msd 765
Temples of Many Creeds	1	sound	Bsd 329
Vermont Around the Calendar	1	silent	Ms 155
Weaving, Art of Spinning and	2	silent	Hs 7
Williamsburg, Colonial	1	sound	Msd 441
Zapotecan Potter	1	sound	Bsd 213

Firms Manufacturing and Selling 16mm Films

A partial list of firms manufacturing and selling 16mm films and issuing periodic catalogs and notices of new releases:

- American Trading Association, 723 Seventh Avenue,
New York City
Bell and Howell Company, 1801 Larchmont Avenue,
Chicago, Illinois
Bray Picture Corp. (Educational Dept.),
729 Seventh Avenue, New York City

Castle Films, R. C. A. Building, New York City
 Coronet Instructional Films, Coronet Building,
 Chicago 1, Illinois
 DeVry Corporation, 1111 Armitage Avenue,
 Chicago, Illinois
 Encyclopedia Britannica Films, Wilmette, Illinois
 Harmon Foundation, Inc., 140 Nassau Street, New York City
 International Films Bureau, 59 E. Van Buren Street,
 Chicago, Illinois
 Pictorial Film Library, Inc., 130 W. 46th Street,
 New York City
 Teaching Film Custodians, 25 W. 43rd Street,
 New York City
 World Pictures Corporation, 729 Seventh Avenue,
 New York City
 Y. M. C. A. Motion Picture Bureau, 19 S. La Salle Street,
 Chicago, Illinois

Art Movies

Associated Films, 347 Madison Avenue, New York 17, N. Y., offers free use of the following films to schools. Teachers may select them for use in stimulation for art experience:

How Young America Paints, S-135—1 reel, color, sound and silent
 Why Young America Paints, S-123—1 reel, color, sound and silent
 Spotlight on Alaska, S-220—3 reels, color, sound
 Washington, Shrine of Patriotism, S-139—2 reels, color, sound
 Wings Over Latin America, S-260—4 reels, color, sound
 Wings Over Mexico and Guatemala, S-283—3 reels, color, sound

Coronet Instructional Films, Coronet Building, Chicago 1, Illinois, plans new art films and lists the following educational and art subjects now on hand:

The Apache Indian, No. 40-41—1 reel, color
 Hopi Arts and Crafts, No. 34-35—1 reel, color
 Birds in Winter, No. 134—1 reel, color
 Birds of the Woodlands, No. 56-57—1 reel, color
 Our Animal Neighbors, No. 144—1 reel, color

The Encyclopedia Britannica Films, Inc., Wilmette, Illinois, lists the following art films:

Puppetry: String Marionettes, Plastic Art, Making a Mural, Arts and Crafts of Mexico

U. S. Government Films (write to United World Films, 30 Rockefeller Plaza, New York 20, N. Y.):

Home on the Range, D.A. 20—1 reel
 Patterns of American Rural Art, D.A. 84—1 reel, color
 Power and the Land, D.A. 38—3 reels

Note: Since new releases are constantly being made by producers, it would be well to keep informed. Companies will gladly put your school on their mailing lists if you make request.

Color and Halftone Prints

Small color prints. 3"x4" miniatures for students, larger 8"x10" prints for classes, and large-size prints for framing may be had from among these firms:

Art Education, Inc., 35 W. 34th Street, New York City¹

¹Carry classroom miniature prints, among others.

²Carry 7"x10" classroom prints, among others.

Artex Prints, Inc., Westport, Connecticut^{1,2}
 Charles A. Burrison, 1713 Chestnut Street, Philadelphia, Pa.^{1,2}
 Caproni Casts (sculpture prints), Caproni Bros., Boston, Mass.
 Catalda Fine Arts, Inc., 225 Fifth Avenue, New York 10, N. Y.
 Kurtz Brothers Co., Clearfield, Pa.; also 8033 Bennett Street, Pittsburgh 21, Pa.^{1,2}
 Metropolitan Museum of Art, New York 28, N. Y.
 New York Graphic Society, 10 W. 33rd Street, New York, N. Y.²
 Owen, F. A., Publishing Co., Danville, N. Y.¹
 Perry Picture Co., Malden, Mass.²
 Prothmann, Dr. Konrad, 7 Soper Ave., Baldwin, L. I.
 Raymond and Raymond, 40 E. 49th Street, New York, N. Y.²
 Rudolph Lesch, 13 W. 42nd Street, New York, N. Y.
 University Prints, 11 Boyd Street, Newton, Mass.
 United States Printing & Lithographing Co., 485 Madison Avenue, New York, N. Y.

Art Magazines and Pamphlets

Design. Design Publishing Co., 131 State Street, Columbus, Ohio
Drawing Teacher. Binney and Smith Co., 41 E. 42nd Street, New York City
Everyday Art. American Crayon Co., Sandusky, Ohio
School Arts Magazine. The Davis Press, Worcester, Mass.

Directory of Dealers and Manufacturers

Acknowledgement is made to the Eastern Arts Association for the Directory from their 1947 Year-book, and for the Index research following. The Directory and the Index (pages 431-432) should be used in conjunction.

1. American Art Clay Co., 4717 W. 16th Street, Indianapolis, Ind.
2. American Artists Group, 106 Seventh Avenue, New York 11, N. Y.
3. American Crayon Co., The, 1706 Hayes Avenue, Sandusky, Ohio
4. American Handicrafts Co., 195 William Street, New York 7, N. Y.
5. American Pencil Co., 500 Willow Avenue, Hoboken, N. J.
6. American Reedcraft Corp., 130-32 Beekman Street, New York 7, N. Y.
7. American Type Founders, 200 Elmora Avenue, Elizabeth, N. J.
8. Art Education, Inc., 6 E. 34th Street, New York 16, N. Y.
9. Artex Prints, Inc., Westport, Conn.
10. Bell & Howell Co., 7100 McCormick Road, Chicago 25, Ill.
11. Bermingham & Prosser Co., 10 E. 40th Street, New York 16, N. Y.
12. Binney & Smith Co., 41 E. 42nd Street, New York 17, N. Y.
13. Bowmar Co., The Stanley, 2929 Broadway, New York 25, N. Y.
14. Bradley Co., Milton, 74 Park Street, Springfield 2, Mass.
15. Braquette, Inc., 3928-45th Street, Long Island City 4, N. Y.
16. Bridgman Publishers, Inc., 145 Fourth Street, Pelham 65, N. Y.

(Continued on page 431)

ORDERING ART MATERIALS

A table showing an easy method of determining the minimum amount of suggested art materials needed for a room of thirty pupils. Consult your local dealer, or refer to the index and directory on following pages

MATERIALS	COLUMN 1 AMOUNT NEEDED per school unit of 30 pupils	COLUMN 2 Supply House Standard Packaging	COLUMN 3 MATERIALS NEEDED— multiply number of school units by amount in column 1, and <i>change</i> to standard packaging as in column 2	COLUMN 4 Materials on hand	AMOUNT ORDERED is determined by subtracting column 4 from column 3
PAPER					
Colored const. 12" x 18"		(100 sheets to pkg.)			
Red.....	8 sheets		_____ sheets or _____ pkg.	_____ pkg.	_____ pkg.
Orange.....	8 "		_____ " _____ "	_____ "	_____ "
Gray.....	8 "		_____ " _____ "	_____ "	_____ "
Gray blue.....	8 "		_____ " _____ "	_____ "	_____ "
Gray green.....	8 "		_____ " _____ "	_____ "	_____ "
Black.....	24 "		_____ " _____ "	_____ "	_____ "
Assorted (20 to 40 colors).....	100 "		_____ " _____ "	_____ "	_____ "
Colored const. 18" x 24" Assorted (20 to 40 colors).....	15 "		_____ " _____ "	_____ "	_____ "
Poster, 12" x 18"					
Red.....	8 "		_____ " _____ "	_____ "	_____ "
Orange.....	8 "		_____ " _____ "	_____ "	_____ "
Green.....	8 "		_____ " _____ "	_____ "	_____ "
Black.....	24 "		_____ " _____ "	_____ "	_____ "
Assorted (20 to 40 colors).....	100 "		_____ " _____ "	_____ "	_____ "
White drawing (grades 5-8)		(per ream)			
12" x 18".....	100 "		_____ sheets or _____ reams	_____ reams	_____ reams
18" x 24".....	30 "		_____ " _____ "	_____ "	_____ "
Cream manila, 12" x 18".....	200 "		_____ " _____ "	_____ "	_____ "
Cream manila, 18" x 24".....	60 "		_____ " _____ "	_____ "	_____ "
Gray manila, 12" x 18".....	150 "		_____ " _____ "	_____ "	_____ "
Gray manila, 18" x 24".....	60 "		_____ " _____ "	_____ "	_____ "
Gray bogus, 18" x 24".....	60 "		_____ " _____ "	_____ "	_____ "
Easel or newsprint, 18" x 24" (grades 1-4).....	200 "		_____ " _____ "	_____ "	_____ "
Fingerpaint paper or 100 lb. glazed book 16" x 22" or 18" x 24".....	60 "	(100 sheets to pkg.)	_____ sheets or _____ pkg.	_____ pkg.	_____ pkg.
Project roll, 36" wide gray-toned.....	30 ft.	(150-yd. roll)	_____ ft. or _____ rolls	_____ rolls	_____ rolls
Chip board 26" x 38".....	8 sheets	(per doz.)	_____ sheets or _____ doz.	_____ doz.	_____ doz.
PAINT					
Powdered tempera		(per lb.)			
Red.....	1 lb.		_____ lbs.	_____ lbs.	_____ lbs.
Orange.....	1 "		_____ " _____ "	_____ "	_____ "
Yellow.....	1 "		_____ " _____ "	_____ "	_____ "
Green.....	1 "		_____ " _____ "	_____ "	_____ "
Blue.....	1 "		_____ " _____ "	_____ "	_____ "
Purple.....	1 "		_____ " _____ "	_____ "	_____ "
Black.....	1 "		_____ " _____ "	_____ "	_____ "
Brown.....	1 "		_____ " _____ "	_____ "	_____ "
White.....	4 "		_____ " _____ "	_____ "	_____ "
Water colors (grades 5-8)		(per doz. boxes)			
8-color metal box.....	30 boxes		_____ boxes or _____ doz.	_____ doz.	_____ doz.
Refills for boxes.....		(per doz. pans)	_____ pans or _____ "	_____ "	_____ "
Red.....			_____ " _____ "	_____ "	_____ "
Orange.....			_____ " _____ "	_____ "	_____ "
Yellow.....			_____ " _____ "	_____ "	_____ "
Green.....			_____ " _____ "	_____ "	_____ "
Blue.....			_____ " _____ "	_____ "	_____ "
Purple.....			_____ " _____ "	_____ "	_____ "
Black.....			_____ " _____ "	_____ "	_____ "
Brown.....			_____ " _____ "	_____ "	_____ "
Crayons, Waxed, 8-color box.....	30 boxes	(per doz. boxes)	_____ boxes or _____ box	_____ box	_____ box
Chalk, No. 1 grade, Assorted colors.....	½ gross	(gross box)			
BRUSHES					
Paste.....	30 brushes	(gross)	_____ brushes or _____ gross	_____ gross	_____ gross
Varnish, 1".....	1 "	(each)	_____ " _____ each	_____ each	_____ each
Flat easel, ½" wide.....	9 "	(per doz.)	_____ " or _____ doz.	_____ doz.	_____ doz.
Flat easel, 1" wide.....	3 "		_____ " _____ "	_____ "	_____ "
Round easel, ¼" x 1" long.....	3 "		_____ " _____ "	_____ "	_____ "
Water color (grades 5-8)					
No. 3.....	10 "		_____ " _____ "	_____ "	_____ "
No. 7.....	30 "		_____ " _____ "	_____ "	_____ "
No. 10.....	10 "		_____ " _____ "	_____ "	_____ "
OTHER SUPPLIES					
Water color pans (grades 5-8).....	30 pans	(per hundred)	_____ pans or _____ hundred	_____ hundred	_____ "
Clay flour, (omit if it is possible to find natural clay in your district).....	30 lb.	(100-lb. bag)	_____ lbs. or _____ bag	_____ bag	_____ "
Paste.....	2 qt.	(gal. jar)	_____ qt. _____ gal.	_____ gal.	_____ gal.
Cornstarch (for fingerpaint).....	1 box	(box)	_____ box	_____ box	_____ box
Scissors, 5" pointed.....	30 pairs	(per doz.)	_____ pairs or _____ doz.	_____ doz.	_____ doz.
Thumb tacks.....	1 box	(per box)	_____ box	_____ box	_____ box
White shellac.....	1 pt.	(per gal.)	_____ pt. or _____ gal.	_____ gal.	_____ gal.
Painter's denatured alcohol.....	1 qt.	(per gal.)	_____ qt. _____ gal.	_____ gal.	_____ gal.
Atomizer, fixitif or small insect spray.....	1	(each)	_____ each	_____ each	_____ each
Coping saws.....	1	(each)	_____ each	_____ each	_____ each
Blades.....	1 doz.	(per doz.)	_____ doz.	_____ doz.	_____ doz.
Ink, black waterproof (grades 5-8).....	15 jars	(per doz.)	_____ jars or _____ doz.	_____ doz.	_____ doz.
Refill for jars.....		(qt. bottle)	_____ qt.	_____ qt.	_____ qt.
Lettering pens (grades 5-8).....		(per doz.)			
Speedball No. B1 or equal.....	15 pens	"	_____ pens _____ doz.	_____ doz.	_____ doz.
Speedball No. B3 or equal.....	15 "	"	_____ " _____ "	_____ "	_____ "
Assorted sizes (24 pens).....	1 box	(box)	_____ box	_____ box	_____ box
Combined punch and eyelet set.....	1 per bldg.	(each)	_____ each	_____ each	_____ each
Extension stapler.....	1 per bldg.	(each)	_____ each	_____ each	_____ each
Staples.....	1 box	(per box)	_____ box	_____ box	_____ box
Paper cutter, 18" cut.....	1 per bldg.	(each)	_____ each	_____ each	_____ each

For suggested list of discarded or scrap material see page 427.

(Continued from page 429)

17. Brodhead-Garrett Co., 4560 East 71st Street, Cleveland, Ohio
18. Brown, Arthur & Bro., 67 West 44th Street, New York 18, N. Y.
19. Caproni Galleries, Inc., 1914-1920 Washington Street, Boston, Mass.
20. Creative Crafts, Guernsey, Pa.
21. Day Publishing Co., John, 2 W. 45th Street, New York 19, N. Y.
22. Dennison Mfg. Co., Framingham, Mass.
23. Devoe & Reynolds Co., 787 First Ave., New York 17, N. Y.
24. Dixon Crucible Co., Joseph, Wayne Street, Jersey City 3, N. J.
25. Dixon, Inc., William, 32-34-36 E. Kinney St., Newark, N. J.
26. Drakenfeld Co., Inc., B. F., 45-47 Park Place, New York 7, N. Y.
27. Dugan & Co., O. H., 157 Summer Street, Boston, Mass.
28. Eagle Pencil Co., 700 E. 13th Street, New York 9, N. Y.
29. Keystone View Co., Meadville, Pa.
30. Eberhard Faber Pencil Co., 37 Greenpoint Avenue, Brooklyn 22, N. Y.
31. Educational Materials, Inc., 46 E. 11th Street, New York 3, N. Y.
32. Esterbrook Pen Co., Delaware Avenue & Cooper Street, Camden, N. J.
33. Masterpiece Reproduction Co., 667 Madison Avenue, New York, N. Y.
34. Favor, Ruhl & Co., 425 S. Wabash Avenue, Chicago 5, Ill.
35. Fellowcrafters, Inc., 130 Clarendon Street, Boston 16, Mass.
36. Field & Co., Alfred, 90 Chambers Street, New York 7, N. Y.
37. Floquil Products, Inc., 1993 Broadway, New York 25, N. Y.
38. General Pencil Co., 67-73 Fleet Street, Jersey City, N. J.
39. Godkin, M. C., 2 W. 45th Street, New York 19, N. Y.
40. Grumbacher, M., 470 W. 34th Street, New York 1, N. Y.
41. Gutlohn, Inc., Walter O., 25 W. 45th Street, New York 19, N. Y.
42. Hammett Co., J. L., 380 Jelliff Street, Newark 8, N. J.
43. Higgins Ink Co., Inc., 271 Ninth Street, Brooklyn 15, N. Y.
44. Hunt Pen Co., C. Howard, 7th & State Streets, Camden 2, N. J.
45. International Textbook Co., 1001 Wyoming Avenue, Scranton 9, Pa.
46. Ken Kaye Krafts Co., 1227 Washington Street, West Newton, Mass.
47. Kewaunee Manufacturing Co., Adrian, Mich.
48. Koh-I-Noor Pencil Co., Inc., Bloomsburg, N. J.
49. Laszlo Universal Handpress, 165 E. 60th Street, New York 12, N. Y.
50. Lily Mills Co., Shelby, N. C.
51. Magnus Brush & Craft Materials, Inc., Wakefield, Mass.
52. Manual Arts Press, The, Peoria 3, Ill.
53. Metal Crafts Supply Co., 10 Thomas Street, Providence, R. I.
54. O. P. Craft Co., Inc., The, Sandusky, Ohio
55. Paache Airbrush Co., 103 Lafayette Street, New York 13, N. Y.
56. Perleberg, H. C., Albert S. Lampl, 4817 Windsor Avenue, Philadelphia, Pa.

57. Prothmann, Konrad, 7 Soper Avenue, Baldwin, L. I., N. Y.
58. Rogers Electric Kilns, 8 West Glenside Avenue, Glenside, Pa.
59. School Arts Magazine, Printers Bldg., Worcester 8, Mass.
60. Sherwin-Williams Co., Graphic Arts Division, Lister St., Newark, N. J.
61. Snead Ceramic Studio, Jane, 1822 Chestnut Street, Philadelphia, Pa.
62. Strathmore Paper Co., West Springfield, Mass.
63. Universal Handicrafts Service, Inc., 1267 Sixth Avenue, New York 19, N. Y.
64. Victor Animatograph Corp., 330 W. 42nd Street, New York 18, N. Y.
65. Watson-Guptill Publications, 330 W. 42nd Street, New York 18, N. Y.
66. Weber Co., F., 1220 Buttonwood Street, Philadelphia 23, Pa.
67. Weber Costello Co., 12th & McKinley Streets, Chicago Heights, Ill.
68. Winsor & Newton, Inc., 31 Union Square West, New York 3, N. Y.
69. Webster Paper & Supply Co., Inc., Central Warehouse Bldg., Albany, N. Y.
70. X-Acto Crescent Products Co., 440 Fourth Avenue, New York 16, N. Y.

Art and Craft Materials and Equipment Index

Find name of desired article below. The numerals following are the index numbers of firms handling that item. Refer to these item numbers in Directory of Our Dealers and Manufacturers on pages 429 and 431.

- Adhesives—3, 12, 18, 35, 42, 43
 Art and Craft Books—2, 16, 39, 52, 56, 59, 65
 Art Gum—18, 23, 28, 34, 38, 42, 46, 66, 69
 Art Metals—4, 34, 35, 42, 53, 63
 Artists' Materials—3, 4, 12, 14, 18, 19, 23, 34, 35, 40, 42, 46, 48, 54
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 Batik Supplies—34, 42, 63
 Beads—4, 14, 35, 42, 46, 52, 63
 Bookbinding Supplies and Equipment—31, 42
 Bristol Boards—18, 23, 34, 42, 62, 66
 Brushes, Artists'—4, 6, 14, 18, 23, 34, 40, 42, 51, 63, 66, 69, 70
 Cameras, Motion Picture—10, 29, 64
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 Casts, Plaster—19
 Celluloid—4, 18, 34, 35, 46, 63
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 Color Charts—6, 14, 34, 42, 54, 60

- Color Guides—6, 34, 54, 60
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 Frames, Art and Exhibit—18, 34, 42
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 Inks, Celluloid—18, 34, 35, 66
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Circulating Exhibits and Other Helps

In vitalizing art education and in making the program lively, vigorous, and forceful, teachers, supervisors, and school authorities make continual use of circulating exhibits.

These carefully prepared teaching aids are found helpful in broadening horizons, supplying direct instruction, as well as in providing keen enjoyment to a class as well as to an entire school.

SOURCES

The Eastern Arts Association—Address Mrs. Lillian D. Sweigart, State Teachers College, Kutztown, Pa., for information, or refer to the *Eastern Arts Bulletin* for May, 1948, page 4. Twelve loan exhibits are listed, booked through Mrs. Sweigart, with express charges one way being the only cost for a two-week period. E. A. A. membership is required.

The Museum of Modern Art—Address the Director of Circulating Exhibitions, Museum of Modern Art, 11 West 53rd Street, New York 19, N. Y. The 1948-1949 catalog (sent free) lists numerous exhibits under such titles as Painting, Sculpture, Color Reproductions, Graphic Arts, Architecture, Industrial Design and Crafts, Photography, Theatre, Teaching Materials and Films. Exhibits are sent for two- or three-week periods and a charge is made. New catalogs are issued every second year.

The National Gallery of Art—Address the Director of Traveling Exhibits, National Gallery of Art, Washington, D. C. The Latin American Art booklet (free) lists numerous exhibits, their sources, and fees. Some exhibits are sent free except for shipping charges.

Local galleries, as well as established institutions and some commercial firms, maintain art exhibits.

ADDITIONAL HELPS

- Address the School Secretary, Division of Intellectual Cooperation, Pan-American Building, Washington, D. C., for the booklet "Latin American Painting Comes Into Its Own," by Robert C. Smith (.10). Ask for the lists of exhibit materials for loan: Art Exhibits, Visual Aids, Kodachrome Slides, and free and inexpensive teaching materials on South America.

- A twenty-two page illustrated booklet on "Soap Sculpture" is issued by the National Soap Sculpture Committee, Proctor and Gamble, Cincinnati, Ohio.

- "Practical Weaving Suggestions" is a publication containing 8 colorful pages on practical weaving suggestions. Address the Lily Mills Corporation, Sheldon, North Carolina.

- Examine "Items of Interest" in each issue of *School Arts Magazine* for exhibits offered by various commercial firms, and new catalogs of arts and crafts material. Examine the article "New Books for the Art Teacher" each month in this publication. "Tips on Trips" is available on art travel, secured by addressing Happy Holiday, 189 Printer Building, Worcester 8, Mass.

- "Painting for Fun" is a 23-page illustrated booklet issued by Devoe and Reynolds Co., Inc., 787 First Avenue, New York 17, N. Y. Cost, .28.

- For a 16-page illustrated booklet on "Pipe Cleaner Art," address the American Pipe Cleaner Co., Norwood, Mass.

- For "Prize Winning Child Art in Crayons," address James J. Shea, President of Milton Bradley Co., Springfield 2, Mass. Two exhibitions in color are available for schools.

ART TRAVEL INFORMATION

- Most states maintain a Tourist Bureau which issues valuable illustrative booklets for travelers. Address The Department of Commerce, Harrisburg, Pa., for booklets giving information on travel in Pennsylvania. For travel in other states, a letter written to The State Tourist Bureau, addressed to the capital city of the state in which you are interested, will find its way to the proper office.

- Foreign nations maintain associations that supply interesting colored illustrated booklets: Mexican Tourist Association, Mexico City, Mexico; British Columbia Indian Arts and Welfare Society, 322 Armit Road, Victoria, B. C.; Canadian Department of Travel and Publicity, Parliament Building, Toronto, Canada, etc.

- Colorful maps and booklets on world travel are issued by large airway lines: Trans-World Lines, 101 W. 11th St., Kansas City, Mo.; United Air Lines, Publicity Bureau, 5959 S. Cicero Ave., Chicago 38, Ill.; Air France, 683 Fifth Ave., New York 22, N. Y.; Capital Airlines, Director of Publicity, Washington National Airport, Washington, D. C.

- Main railways issue tourist material in season: Pennsylvania Railroad Tourist Division, Pennsylvania Railroad Depot, New York City; Union Pacific Railroad Tourist Office, Room 146, Omaha, Nebraska; Canadian Pacific Travel Service Bureau, Toronto, Canada, etc.

- Bus lines prepare many folders on travel: National Trailway Bus Co., 180 N. Wabash Ave., Chicago 1, Illinois; Grayline Sight-Seeing Co., 10 N. La Salle St., Chicago 2, Illinois; Greyhound Lines, 2341 Carnegie Ave., Cleveland, Ohio.

- Consult *Travel* and *Holiday* magazines for addresses of leading steamship lines serving foreign travel: Alcoa Steamship Co., Baltimore, Md.; Bermuda Trade Association, 620 Fifth Ave., New York City 20, N. Y., etc. New York Sunday papers carry much art travel information.

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Listed under several headings are books that will be helpful to those teaching art to elementary children; no large comprehensive list has been attempted.

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CHAPTER VIII

Music Education

INTRODUCTION—VIEWPOINT

WE MUST evaluate our past curriculum aims in Music Education and our future plans that they may be more effective in contributing to the ultimate aims of all education.

Innate with everyone is the desire to express himself. Ability and experiences of the individual will determine the types and degrees of expression. Music is regarded as one of the many valuable communicative arts. It is important that children be given the opportunity to use music as a natural means of expression. It is recognized that music makes valuable contributions to child development in many ways.

Music provides a means for wholesome emotional release since its basic appeal is to the feelings.

Music, through group participation, provides opportunities for the development of such desirable social traits as cooperation, initiative, and leadership which contribute to responsible citizenship.

Music in school stimulates out-of-school growth and satisfaction in musical creation and recreation. It offers encouragement for those whose interests have been newly awakened, as well as for the specially talented.

Music, through vocal, instrumental, and rhythmic activities, becomes a direct experience which develops coordinated physical expression.

Modern Music Education, therefore, contributes to the total life of a child.

Music activity should fit in with all of a child's experiences and thus assist in a more integrated personality.

We recognize and appreciate the many forms of music to which children are exposed in their environment from preschool to and throughout the elementary grades. The function of the teacher is that of leadership, to guide the child toward honest discernment in the presentation of significant music as well as utilizing the child's interest in folk and popular music which surrounds him continuously (radio, movies, community gatherings, church, and concerts).

Although music is an art in itself, it offers a common meeting ground for many other arts and subjects. It can and should be correlated with various school and out-of-school experiences. In the last analysis, education is "living with oneself and with other people." It is not what we know but how we feel about what we know that determines what we do.

Recognizing the importance of skills and knowledge for furthering musical growth, we motivate these learnings through a variety of musical activities and materials which have interest and meaning for children at their particular level of growth. We should at no time, however, sacrifice desirable attitudes or opportunity for musical expression for the mere technicalities of music. Further, we recognize the importance of the creative approach in the teaching of music, an approach which encourages freedom of expression, experimentation, exploration, and the exercising of critical judgment and choice. Also, we recognize that varying degrees of musical talent are to be found among the individuals of any group. Therefore, in planning the musical program of any class, a variety of music activities should be included in order that every child may find some phase or phases of music which he can enjoy and in which he can achieve some measure of success. Such a program should include singing, playing on instruments, listening, rhythmic activities, dramatization, creative activities, reading about music and musicians, special assembly programs, etc.

Objectives

1. The primary goals of music education are
 - Enjoyment
 - Understanding
 - Satisfaction
2. The ultimate goal of music education is to add to the primary goals by
 - Providing rich experiences of self-expression and intellectual stimuli (singing, playing instruments, listening, creating, and rhythmic activities)
 - Providing a wholesome means for emotional release
 - Providing social growth together with essential prerequisites for good citizenship

EXPERIENCES WHICH CONTRIBUTE TO MUSICAL GROWTH

Singing

Rote Songs. The presentation of a rote song will depend upon the age, ability, and background of the group to be taught. The teaching process is more effective and results are obtained more quickly, if the song has been properly motivated and sung a number of times several days before the actual teaching is done. This will be also an aid to memorization. It is strongly urged that teachers refer constantly to teaching aids and procedures as detailed in the teachers' manuals of the various basic song series (e.g. the proper tonal range of songs for the child voice, the importance of moods, the text of songs with a natural appeal to children, and logical procedures suggested for teaching each type of song). All teachers' manuals give detailed plans for teaching the various types of songs and methods of approach: e.g. the phrase method, the whole song method, steps to be followed in starting a familiar song, rote songs with the books in the hands of the children.

1. The inherent musical values of the song should be stressed. A wise selection of songs should be made from a wide choice of books. Do not guess at the pitch of the songs. Use the pitch pipe correctly. Consideration and care of the child voice is very important. Each child should be given the opportunity to learn to use his own voice correctly. Any child who shows inflection in the natural use of his speaking voice should never be classed as a "monotone" or

"non-singer." He is a tonal deficient or an "indefinite singer." His is an emerging voice and requires individual attention. In order that correct singing may become a natural and spontaneous form of expression, this individual attention should be given frequently and not necessarily be limited to the scheduled music period.

2. Consciousness of mood. Natural voice quality in keeping with text of song (according to age of the child).
3. Individual and small group participation as well as class singing—a daily routine, as a part of each lesson.
4. Appropriate correlations with singing: e.g. use of pictures, playing of rhythm and melody instruments, dramatizations, dancing.

Music Reading Readiness Program. This program meets the needs of varying groups in order to bridge the rote-note process successfully. It is highly important that children have a rich background of aural musical experiences before definite steps are taken to establish the symbols of music, the ear must precede the eye by one or two years. In contrast to language development, children enter school with less background of musical experience. Therefore, we must accept the fact that music reading cannot develop simultaneously with the language arts. The development of music reading readiness may extend over a longer period and will vary among individuals and groups.

In order to bridge the rote-note process successfully, the following types of experiences are suggested:

1. Associating the eye with what the ear has previously conceived; that is, seeing the notation of a familiar song.
2. Observing phrase repetition and contrast in tonal line.
3. Observing tonal direction in familiar songs.
4. Conscious building of tonal vocabulary of melodic figures in connection with certain selected rote songs. A tonal pattern in each song is isolated and learned by syllables or numbers. These patterns consist of (a) scale lines, (b) repeated tone figures, (c) neighboring tone figures, (d) chordal line melodies—Do Mi Sol, Sol Ti Re, etc.
5. Transcription of rhythmic responses into musical notation. Walking suggested for quarter notes, running for eighth notes, step stop for half notes, and combination of the various notes.

6. Experimentation with rhythmic and melody instruments as added means of motivating understanding of note values and pitch relationships. (e.g. Melody bells, piano keyboard, toy flutes.)
7. Seeing the notation of an original song which has been created by the class and written by the teacher.

Music Reading. Music reading is an invaluable means of expanding song repertoire. It is an added challenge for those groups who can reasonably attain it when a scheduled daily program is provided. The various series of music texts and their accompanying manuals offer materials and procedures on music reading in connection with playing and singing.

Part singing is an important goal in the music reading program beginning at the Fourth Grade level. Two-part singing in the Fourth and Fifth Grades should definitely lead into three-part singing in the Sixth Grade.

Aural activities to strengthen part singing: Rounds, chording, voice blending, triads, singing of descants.

Visual activities: Eye association with aural experiences by singing from the staff.

Additional Opportunities. Opportunities should be offered for the more talented children such as elementary school choir, orchestra, small ensembles, and individual performance.

Assembly Singing, Opening Exercises, and Various School Needs. The school assembly offers an opportunity for a democratic summation and culmination of all musical efforts of the entire school program. Here is the golden opportunity to utilize the aesthetic and social values of music. The opening daily exercises should be (1) varied, (2) conducted by students with a minimum amount of supervision, (3) conceived as a vital means of motivating school work.

Listening Experiences

Listening to music should be part of every child's musical experience throughout the grades. In the primary grades we "learn to listen." In the intermediate and upper grades we "listen to learn." There is a definite need for guidance in attaining more active listening, and in developing in the child the beginning of an appreciation of the performance of others. The listening lesson should be used as a means of coordinating all phases of the entire music program. In addition, the listening les-

son may offer music experiences in advance of the student's ability to perform. (Contact the recording companies, such as R.C.A.-Victor; Columbia Records, Inc.; Decca Records, Inc.; and local dealers for educational catalogs and other material.) It is important that vocal and instrumental "live" music, as well as recorded music, be used whenever possible.

Radio. Arouse an interest in a wider use of radio and development of a technique to use the program properly. (Refer to bibliography for teaching manuals.) All major radio stations have an educational director and will cooperate with school requests for manuals and radio aids.

Concerts. Visiting artists, school organizations, other classes, and groups or individuals within the class provide listening experiences.

Rhythmic Experiences

Rhythmic experiences may be regarded as an active way of listening to music. It is a means by which children may project themselves wholeheartedly into music and, in a very real sense "live the music." Through this medium children are able to develop a feeling and an insight into the essentials of music in a meaningful way as they are led to respond to such elements as mood, cadence, form, rhythmic pattern, tempo, dynamics, etc.

Types of Rhythmic Responses

1. Fundamental or natural rhythmic movements, such as clapping, swaying, running, skipping, walking, and galloping encourage large, free muscular movements.
2. Response to rhythmic patterns which allow for specific attention to note values, cadences, etc.
3. Dramatization of songs and composition. Encourage free rhythmic response as an interpretation of what the music suggests to the child.
4. Folk dances and singing games.
5. Use of percussion instruments (discrimination in the use of rhythmic instruments) as accompaniment to dancing or singing and in the rhythm band.

Some Suggested Procedures (guide posts in teaching)

1. Utilize any floor space available (do not sacrifice this valuable experience because of limited physical facilities.)
2. Freedom in creative activity—original songs and dances (class and individual). The teacher should encourage freedom of children's ideas.

3. Allow for the opportunity of a highly individualized type of free expression with continuous growth from kindergarten throughout the elementary grades.

Playing Experiences

1. Use of percussion instruments in rhythm band with piano or records, or as accompaniment to singing and dancing.
2. Melody instruments (tonettes, toy flutes, marimba, bells, etc.) Use instruments with good tone. Play songs learned in class, as well as original melodies.
3. Instrumental classes as an adjunct to singing, from the singing and thinking approach, and not merely as a mechanical experience. Use of real instruments and definite class instruction is desirable. The employment of special instrumental teachers is desirable with class in piano, classes in string, woodwind and brass instruments, and any combination of instruments.
4. The elementary school orchestra for experienced and talented students.

Creative Experiences

Areas of Creative Expression

1. Listening is creative when it
 - Stimulates the imagination
 - Develops insights and understanding of musical composition
 - Develops powers of discrimination in the choice of music
2. Performing is creative when the performance expresses the individuality of the performer
3. Composing is creative in the tonal and rhythmic fields

Media of Creative Expression

1. Singing: (a) Ideas of children in the interpretation of song, (b) Creating original melodies, part songs, descants, accompaniments.
2. Playing of instruments: (a) Allowing for freedom in choosing of rhythm instruments; (b) The making of various percussion and simple melody instruments; and (c) Motivating melody making with the use of individually made instruments, as well as the piano and manufactured melody instruments.
3. Dramatizations, such as songs, pantomimes,

tableaux, pageants, original plays, and operettas.

4. Rhythms through (a) free interpretation, and (b) organization of original dances.
5. Program building where the programs are planned as a starting point or as a culmination of activities.

Techniques of Creative Song Procedures

1. Original chants and sentence songs which are not necessarily notated.
2. Partial creation of melodies by pupils in response to teacher's initial phrase.
3. Melodic settings for poems which may or may not be original.
4. Teacher's notation of melodies by children.
5. Children's notation of their own melodies.
6. Chordal experimentation for harmonization and accompaniments.

Musical Experiences Involved in a Unit of Work

All previously detailed experiences contribute to musical growth: singing, listening, rhythm, music reading, playing, and creating. The unit of work may originate in the music, English, social studies, or any subject matter areas. When such projects develop, the classroom teacher and student should realize that music can make a definite contribution to other classroom activities. The music teacher should be cognizant of

1. Appreciation of our own cultural heritage in relation to other peoples and ages
2. Organizational needs for creative units
 - From musical sources
 - From other arts and subject matter fields
3. The following list of units of work represent some of the possibilities in correlating various subject matter areas:

For Grades One, Two, and Three

- Dramatization of nursery rhymes and favorite songs
- A unit on homemade instruments
- Units on folk songs
- Units based on pets, animals, circus, etc.
- Units on Indians, Eskimos, cowboys
- Units on nationalities

For Grades Four, Five, and Six

- Unit based on folklore (Peer Gynt, by Edvard Grieg. See page 439)

Unit to correlate with geography (Music of Russia)
 Unit on colonial life
 Unit on gypsy life
 Units based on special holidays—Thanksgiving, Christmas, New Year, etc.

4. Outcomes

Learning to work together in large and small groups
 Learning to make and carry out plans
 Experience in criticism
 Social experiences
 Dramatic play
 Language development
 Creative expression
 Poise and rhythmic development
 Learning to realize the influence of music in life's experiences

5. Some examples of suggested units

a. Unit based on a folk tale of Norway

PEER GYNT

The Story

The Music (Suite No. 1 and part of Suite No. 2)

1. Instrumental numbers
 - Morning
 - Ase's Death
 - Anitra's Dance
 - In the Hall of the Mountain King
2. Songs
 - Solvieg's Sunshine Song
 - Solvieg's Cradle Song
3. Discussion of the Music
 - Choice of Orchestra Instruments for Color—Mood—Description
 - Rhythm and Mode for Mood
 - Style—Description
4. Play piano arrangements
5. Learn Solvieg's songs (rote)

Social Studies

1. Maps of Norway
2. Climate and topography of Norway
3. Customs, occupations, and general interests and culture of the Norwegians

Art

1. Illustrations of moods or scenes expressed through the music
2. Illustration of scenes and events in the story
3. Norwegian costumes
4. Norwegian scenery

Physical Education

Folk dances

Reading Class

The life of Edvard Grieg
 (Edvard Grieg. DENCHER. E. P. Dutton & Co.)

Outcomes:

1. Create an interest in the life and customs of the people of another country—in this case, Norway

2. Create an interest in the music of Edvard Grieg and his contribution to the culture of his country
3. Create an interest in the music of other Norwegian composers
4. Added interest in the use of orchestra instruments to express a mood or tell a story
5. Memorization of two art songs by Grieg
6. Experience in group work in planning for and painting pictures or murals, either taken from the story of Peer Gynt, or scenes of Norway
7. Experience in using various art media for painting the pictures or murals
8. Addition to the class folk dance repertoire
9. Experience in discussing various topics and items of interest as they appear in this study
10. Experience in research

SOURCE MATERIAL

The Story of Peer Gynt—E. V. Sandys—Thomas Crowell Co.
 Peer Gynt Music—Conrad's Magic Flight: Kincella—University Publishing Co.
 What We Hear in Music—Faulkner—RCA Victor
 Edvard Grieg—Denchier—E. P. Dutton & Co.
 Peer Gynt Suite No. 1—Album M404 (Victor) or Records No. 12163 and No. 12164
 Solvieg's Song—Record No. 6924 (Victor)
 Solvieg's Song—Art Songs—Glenn & Spouse—Oliver Ditson Co.
 Social Studies Texts

b. Unit to correlate with geography unit on Russia

MUSIC OF RUSSIA

Russian Songs

Russian songs from music books of several series. The number of songs sung will depend on the ability of the class and the length and frequency of the music period.

Tunes and Harmonies—The World of Music—Ginn & Co.

Russian Fields	p. 14	Under the Cherry Tree	p. 103
The Happy Cobbler	p. 25	Russian Winter	p. 120
The Lute Player	p. 61	Journey's End	p. 134
King of the Year	p. 72	The Pool	p. 171
Dance of the Tumblers	p. 75	Message of Spring	p. 157

The Music Hour—Book Five—Silver Burdett Co.

O'er the Steppes	p. 28	My Golden Fish	p. 101
Planting Hops	p. 42	Early Summer in Russia	p. 147
Christmas Stars	p. 53		
Planting Poppies	p. 84		

The American Singer—Book Six—American Book Co.

Call of the North	p. 132	Winter by the Dnieper	p. 133
Song for Freedom	p. 132	The Troika	p. 134
		The Terek	p. 135

New Music Horizons—Book Five—Silver Burdett Co.

The Mill Wheel	p. 118	Minka	p. 85
Orchard Song	p. 117	Song of the Volga	
Flower in My Garden		Boatmen	p. 134
There	p. 118		

Music Everywhere—A Singing School—C. C. Birchard Co.

The Gypsy Song	p. 65	Morning Prayer	p. 208
Minka	p. 84	Mother Volga	p. 84

Rhythmic Activity

1. Rhythmic patterns presented by the songs. Teaching helps and procedures will be found in the teacher's manual for each of the texts.

2. Folk Dancing

If the text in use does not suggest dances in connection with some of the songs, the children will enjoy working out a Russian Dance. The KOLOMEYKA, found on page 30 of Elizabeth Burchenal's *Folk Dances from Old Homelands*, published by G. Schirmer, Inc., New York, or RUSSIAN DANCE, found on page 101 of *Games—Rhythms—Dances*, by Cecille Jean Barnett, published by J. O. Frank & Sons, Oshkosh, Wisconsin, should not be too difficult for sixth grade children.

Recorded Music for Listening and Discussion

1. Song of the Volga Boatmen
 - a. Vocal Solo

Baritone with orchestra—R.C.A. Victor Record Library for Elementary Schools, Basic Singing Program Vol. IV

Nelson Eddy, Baritone—Columbia Record No. 17172-D

Chaliapin, Bass—Victor Record No. 14901
 - b. Chorus

Don Cossack Chorus—Columbia Record No. 4276 M

Russian Symphonic Choir—Victor Record No. 20309 A
 - c. Instrumental

Balalaika Orchestra—Victor Record No. 24782
2. In a Three Horse Sleigh—Tchaikowsky
 - a. Piano solo

Rachmaninoff—Victor Record No. 6857

Kilenyi—Columbia Record No. 69798
3. Andante Cantabile—Tchaikowsky
 - a. Instrumental

Elman String Quartet—Victor Record No. 6634

Kostelanetz and Robin Hood Dell Orchestra—Columbia Record No. 12278

Leslie Howard String Orchestra—Columbia Record No. 7398
4. In the Village and March of the Sardar from Caucasian Sketches—Ippolitov-Ivanov—Victor Record No. 11883

"Procession of the Sardar" may also be found in the R.C.A. Victor Elementary Record Library, Basic Rhythm Program Vol. VI
5. Humoresque—Tchaikowsky
 - a. Violin solo

Kreisler—Victor Record No. 1170
 - b. Orchestra—Victor Record No. 26487
6. The Flight of the Bumblebee—Rimsky-Korsakov
 - a. Violin solo

Heifetz—Victor Record No. 1645
7. Marche Slav—Tchaikowsky

Philadelphia Orchestra—Victor Record No. 6513

Boston "Pops" Orchestra—Victor Record No. 12006
8. Nut Cracker Suite—Tchaikowsky

Philadelphia Orchestra—Victor Album No. M265

Spike Jones Version—Victor Album No. P143
9. March, from "Love for Three Oranges"—Prokofieff

R.C.A. Victor Elementary Record Library Basic Rhythm Program Vol. VI
10. Polka, from "The Golden Age"—Shostakovich

R.C.A. Victor Elementary Record Library Basic Listening Program, Vol VI
11. Peter and the Wolf—Prokofieff

Boston Symphony—Victor Album No. DM566

All-American Orchestra (Stokowski)—Columbia Album No. MM477

Music in One- and Two-Room Schools

The success of music education in one- and two-room schools depends greatly on the attitude and ability of the teacher. "A school is no better than its teacher." The objectives as previously outlined for elementary schools are equally applicable in rural schools.

Suggested Organization

A room which has four or more grades should be divided into three groups. If a room has six grades, divide into three groups with grades 1 and 2 in the lower group (LG); grades 3 and 4 in the middle group (MG); and grades 5 and 6 in the upper group (UG). If a room has four grades, divide into three groups with grade 1 in the lower group (LG); grade 2 in the middle group (MG); and grades 3 and 4 in the upper group (UG). If a room has eight grades, divide into three groups with grades 1 and 2 in LG, grades 3, 4, and 5 in MG, and grades 6, 7, and 8 in UG.

Many teachers find the following weekly schedule practical: Period One—LG review songs, sing new songs, motion and game songs. Period Two—MG songs and activities, plus a shorter song period for LG. Devote Period Three to UG songs, and appropriate activities. Group participation in song-games, rounds, assembly singing, and rhythmic activities, Period Four. The last music period of the week, Period Five, might be devoted to rhythm band, tonette ensemble, and listening. If a supervisor visits regularly (weekly) the last two groups, Period Four and Period Five, are usually omitted from the above outline but included in the supervisor's program.

Equipment

1. Essential

Music books—preferably the same as used in graded schools

Teacher's manual and piano accompaniment books for the basic text in use

Chromatic pitch-pipe

Staff liner or a staff painted on the black-board

Phonograph and records (circulating within a district)

2. Desirable

Piano Instrumental charts

Radio Rhythm band instruments

Music reference books

Activities

The activities for a well-balanced program should include singing, rhythmic response, listening, playing experiences, and creative experiences.

1. Singing

- a. Rote songs (to be continued in lesser degrees up through the grades)

Suggested Procedure:

Introduction—Create an interest in the song; supplement with a picture, novelty, etc.

Preparatory stage—Teacher sings the song several times, interspersed sparingly with questions and comments

Teacher sings and the class hums

Teacher sings alone

Class sings alone

Drill phrase-wise only if necessary

- b. Classify children according to singing ability into

1st choir—all children who can sing a melody accurately

2nd choir—all children who can match tones but cannot sing melodies accurately

3rd choir—children who cannot match tones. This group is known by many different names and as there are actually very few “indefinite singers,” let us use these names cautiously. Children of the 3rd choir need individual attention daily but all treatment must be in the form of play. This group should be seated in front of the other groups so they may benefit by hearing the correct tones of the others. Also this position nearer the teacher enables her to hear them and give them help immediately.

- c. Some suggested aids

Be tactful in aiding the slower pupils. They should not be made to feel inferior. Give 1st and 2nd choirs an added challenge by occasionally using more difficult material.

Play Fruit Basket—all children sing “fruit basket,” but the child sings only the name of a fruit

Orchestra—same as Fruit Basket

Opera—conversation in melody. Teacher sings a question, child sings an answer

Jack-in-the-box—let child impersonate an animal (cat—“me-ow”)

Lift hair lightly (let child do this himself)

- d. Rhythm—developed through:

Rhythmic reaction to songs—impersonating,

dramatizing, “feeling” the song as they sing it, and playing song games

Rhythmic activities: fundamentals—walking, running, marching, trotting, galloping, skipping, hopping, swaying, bending, and playing in rhythm band

2. Appreciation

- a. All rote songs and rhythmic activities are forms of appreciation

- b. Listening

To develop sense of phrasing—Moods—Structure—Quiet listening—Experiencing orchestral effects

3. Reading-Readiness is the development and merging of tone groups and rhythm experiences

- a. Tone groups

Scale songs—Scale direction—Skips—Neighboring tones—Repeated tones

- b. Rhythmic responses

4. Reading songs

- a. Introduction

Scan or chant

Orient in key and meter

Find and sing familiar parts

Learn new parts by rote or reading

Sing entire song with the teacher helping only in difficult parts

- b. Reading song in upper groups

Introduction—establish the mood of the song and relate to previous experiences

Analyze song for like and unlike phrases

Scan

Orientation (singing tonic chord, and sensing meter and rhythm)

“Spotting” figure content (scales, chords, skips)

Teach first phrase with syllables if difficult, or “loo” and words if practical

Teach other difficult phrases this same way

Difficult parts may first be sung by the teacher

Class sings the entire song

5. Part-Song preparation and experiences—Rounds, Tone-blending, Descants, Using chords with melody, Counter rhythms.

6. Presenting a new problem—Rote-note method

Sing a familiar song containing the problem

Recognize the problem

Isolate the problem (class sings this part)

Drill by writing and singing

Apply in new reading song

Group Occupation

One step of deviation from grade school procedure is in providing constructive occupation for all grades not engaged in active recitation, such as:

1. Lower group
 - a. Learn to draw music symbols
 - b. Make same symbols out of modeling clay
2. Middle group
 - a. Copy a melody—develop a growing consciousness of staff notation and staff degrees
 - b. Make a list of words which include only the letters from “a” to “g” (music alphabet)
 - c. Locate these words on the staff (treble), using whole notes
 - d. Copy songs and write syllables and letter names under each note
 - e. Clap counter rhythms to LG songs as they sing
 - f. Draw pictures using music symbols
 - g. Use music workbooks
3. Upper group
 - a. Copy songs occasionally and write symbols and letter names
 - b. Write additional work on current problems: for example, a lesson on key signatures could be supplemented with a writing lesson of ten or more key signs; or in rhythm, complete measures, or substitute rests for notes, etc.
 - c. Music Games (illustration: *Maestro*, published by Gamble Hinge Co., Chicago, Ill.) Note: Lines and spaces on treble staff, lines and spaces on bass staff, time, key signatures, musical terms, syllables, ear training
 - d. Music workbooks
 - e. Music notebooks on instruments of the orchestra, composers, forms of music, etc.

Some Suggested Source Material

Standard Music Texts

American Singer Series. American Book Co.
 Dann Song Series. American Book Co.
 Foresman's Books of Songs Series. American Book Co.
 Music Education Series. Ginn and Co.
 Music Horizons Series. Silver Burdett Co.
 Music Hour Series. Silver Burdett Co.
 Singing School Series. C. C. Birchard and Co.
 World of Music Series. Ginn and Co.

Supplementary Song Books

BAKER-KOHLSAAT. *Songs for the Little Child*. Adingdon Press.
 BARBER-JONES. *Child-Land in Song and Rhythm*. Bks. 1-11. Arthur Schmidt Co.
 BENTLEY. *Play Songs*. A. S. Barnes & Co.
 BRYANT. *Christmas Carols*.
 Songs for Children. American Book Co.
 COIT-BAMPTON. *Tone Matching Tunes*. Harold Flammer, Inc.
 COLEMAN-JORGENSEN. *Christmas Carols from Many Countries*. G. Schirmer, Inc.
 COLEMAN-THOM. *Singing Time*.
 Another Singing Time. John Day Co.
 FULLERTON. *New Elementary Music*. Follett Publishing Co.
 MARTIN-WHITE. *Songs Children Sing*. Hall & McCreary Co.
 NELSON. *Fun with Music*. Albert Whitman & Co.
 PERHAM. *Growing Up with Music*. Books I and II
 Our First Songs with Descants.
 Songs with Descants. Neil A. Kjos Music Co.
 SIEBOLD. *Happy Songs for Happy Children*.
 More Happy Songs. G. Schirmer, Inc.
Silver Book of Songs. Hall & McCreary Co.

Rhythms

HILL. *Year Round Rhythms*. Keyboard Publishing Co.
 HUGHES. *Rhythmic Games and Dances*. American Book Co.
 RICHARDS. *Dramatized Rhythm Plays*. A. S. Barnes & Co.

Creative Music

COLEMAN. *Creative Music for Children*. G. P. Putnam's Sons.
 FOX-HOPKINS. *Creative School Music*. Silver Burdett Co.
 MURRAY-BATHURST. *Creative Music for Children's Progress*.
 Silver Burdett Co.

Music Literature

BUCHANAN. *Magic Music*. Wallace Publishing Co.
 GEST. *Betty and the Symphony Orchestra*. Theo. Presser Co.
 KINSCHELLA. *Music Appreciation Readers*. University Publishing Co.
 Music and Romance. R.C.A. Victor Co.
 LACEY. *Picture Book of Musical Instruments*. Lothrop, Lee & Shepherd Co.
 LAPRADE. *Marching Notes*
 Alice in Orchestrabilia. Doubleday, Doran & Co.
 LUTHER. *Americans and Their Songs*. Harper Bros.
 MCGHEE. *People and Music*. Allyn and Bacon

General Reference

BROOKS-BROWN. *Music Education in the Elementary School*.
 American Book Co.
 GEHRKENS. *Music in the Grade Schools*. C. C. Birchard & Co.
 HUBBARD. *Music Teaching in the Elementary Grades*. American Book Co.
 MURSELL. *Music in American Schools*. Silver Burdett Co.
 PITTS. *The Music Curriculum in a Changing World*. Silver Burdett Co.
 WRIGHT-LOSSING. *Song Source Material for Social Study Units*. Columbia Univ.
 WRIGHT. *Elementary Music Education*. Carl Fischer, Inc.

CHAPTER IX

Meeting the Needs of the Mentally Retarded in the Regular Classroom

PURPOSE AND PLAN

THE MATERIAL in this chapter is intended to offer suggestions for teachers who wish to provide better educational opportunities for the mentally retarded children who are in their classes. It is not meant to suggest a method of replacing special classes, nor to infer that such a procedure is desirable. The Division of Special Education has the responsibility of planning for the education of all mentally retarded children who are in school. This material has been developed specifically for use in areas where an adequate special class program is not available.

The content material has been divided into five major areas: namely, reading, arithmetic, language, social studies and science, and health. This has not been done with the purpose of sectionalizing the material but as a practical method of presenting it to the teacher. The material has been developed in terms of mental age concepts. Since a child's instructional level is largely dependent upon his mental maturity level, this method is a good one to orient the teacher in terms of content and objectives. One must remember that a child with a mental age of six or eight years may be enrolled not only in the primary grades but also in the intermediate grades or junior high school. If the teacher has only the child's I.Q. it should be converted immediately into a mental age by the following formula: $I.Q. \times \text{Chronological Age} \div 100$. In the fields of reading and arithmetic the mental age areas are larger in number and smaller in range than in language and health. This differentiation is necessary because of the nature of the material.

In planning adequately for the mentally retarded child, there are certain basic considerations which must be met. First, he must be taught at his instructional level regardless of age or grade placement. Second, his pride must be protected. Third, he must be given an opportunity for recognition and made to feel that he is an integral part of the class. He has the same need for security and acceptance as any other member of the group. Fourth, he must be able to see progress in what he is doing and should experience a measure of success. It is important to help him evaluate progress based upon his own growth. He should be competing with himself and not with others. Fifth, he must be given instructional materials which he can use and which are meaningful to him. Although the mentally retarded child may be able to learn the basic

skills with some degree of proficiency, he has marked limitations in his ability to organize and use knowledge. Therefore, in teaching the mentally retarded child, a major emphasis should be on functional material.

Materials and bibliographies are suggested which should prove helpful to the teachers. A reference list of books for teachers who are interested in broadening their understanding of the needs of exceptional children has been included, together with a list of books containing information on handicrafts and also a list of publishers' names and addresses.

Suggestions as to teaching methods have been included in the content material. It is believed that the project or unit method of teaching is an excellent means of planning for a wide range of abilities. For this reason, several examples of this method have been given in detail. If the class program is organized around large units of work where each child contributes to the extent of his ability, the teacher will have little difficulty in meeting the needs of a child who has retarded development. However, if the program is more formal and textbooks provide the principal curriculum content for the class, the following adjustments are suggested:

DO'S

1. Set up individual aims and objectives for the instruction of the mentally retarded child.
2. Provide the child with appropriate books and work sheets at the level where instruction is needed.
3. Provide the child with a few minutes of individual instruction each day.
4. Make recitation, like instruction, an individual pupil-teacher experience.
5. Keep a record of the pupil's individual progress.
6. Make the child feel that he is succeeding with the work planned for him.
7. Encourage the other children to lend a helping hand with the work being done by the mentally retarded child.
8. Report the child's progress to parents in terms of the aims and objectives set up for this particular child.

DON'T'S

1. Do not use any elements of the regular class program for the instruction of the mentally retarded child if the regular program does not meet the needs of the child.
2. Do not provide the child with the class text when the child cannot use the book successfully.
3. Do not let the child "just sit" because he fails to do the work of the class.
4. Do not ask the child to recite before the group unless he is able to do so successfully.
5. Do not attempt to evaluate the retarded pupil's progress in terms of the class progress.
6. Do not let the child feel he is a failure because he cannot do the work being done by the other children.
7. Do not encourage an attitude of superiority on the part of the other children in the class.
8. Do not "mark" the mentally retarded child on the basis of the class program for the normal children.

READING

Introduction

The reading section contains helpful suggestions on the teaching of reading for the classroom teacher who has retarded children in her room. The treatment of each child will depend upon such factors as mental age, chronological age, and past experiences in reading. The personality and emotional stability of the child should also be considered as well as his physical health, his interests, and the social conditions of his environment.

After the teacher has knowledge of the above factors, she should find the child's present reading level. This is for one main purpose: *To adjust his instruction in terms of his needs.* Regardless of grade placement, or chronological age, the reading instruction should always be on the child's own reading and readiness level. While doing this, however, several things must be kept in mind. It should be obvious that third-grade reading instruction given to a child fourteen years of age should differ in method and content from such instruction given to a child eight years of age. The following points should be considered:

1. The child's pride should be protected.
 - a. Use readers other than the basic readers used in the school.
 - b. Use books which have no grade level designations.
 - c. Use books which have not been read before.
 - d. Use books with a mature social level of interest, preferably along his own line of interests.
2. Work should be made as interesting as possible.
 - a. Use his interests, if you can.
 - b. Let him see his progress.
 - c. Give him a great deal of praise and encouragement when deserved.
 - d. Make him feel proud of himself.
 - e. Let him see that someone else is proud of him.
 - f. See that he experiences success.
3. What the teacher should expect.
 - a. A retarded child is usually ready for reading somewhere between the chronological

ages of eight and twelve years, depending on the degree of retardation.

- b. After the child is ready to read, some of the very slow children will require two years to complete the amount of work normal for one year.
 - c. Very often it will be difficult to arouse his interest, especially if he has had a history of failure.
4. Cautions to observe.
 - a. Teach word recognition methods *after* child is aware of reading for meaning and has acquired a usable sight vocabulary.
 - b. Be sure child knows meaning of words being read.
 - c. Isolated drill should be avoided. Teaching should be in situations in which the particular techniques are to be used.

Methods of Finding Reading Level of Child

I. USING BASAL READERS

Informal Reading Inventory (Individual Test¹)

Select a basic series of readers that have the complete primary sequence — pre-primer, primer, first reader, second reader, and third reader. For testing, if possible, use a series of readers with which the child is not familiar.

As an aid in establishing rapport, the teacher should try to start the testing at a level at which the child is almost sure to succeed. For many children this will necessitate starting in the pre-primer. If the child is not able to read this, reading readiness tests are then indicated. Such a child needs initial instruction in reading, regardless of his chronological age.

Choose from each of these readers two or three representative pages. The review pages at the end of units are good. Prepare a few questions on the facts on these pages, including a few which will necessitate drawing simple inferences from what has been read.

First determine the level on which the child can read easily without any signs of difficulty. This will be his basal level. At this level the child will not miss as many as one word out of twenty. He can

¹For more complete discussion, see Betts, E. A., *Foundations of Reading Instruction*, American Book Co., 1946, Chapter 21.

pronounce all the words, phrases well, and uses a natural speaking tone. He gives no evidences of tension such as finger pointing or frowning. He can answer the questions asked him concerning content.

If the child is able to read and comprehend the work in the book you have selected, try him in the next higher book of the series. Listen for his pronunciation. See if there are habits of omitting or substituting words. Has he any method of attacking unknown words? As he reads silently, does he show any signs of tension?

If the child can read the primer, try him in the first reader with silent reading followed by oral. Observe his habits and check his comprehension for both oral and silent reading. If he is still having a measure of success, try the second reader and so on. You will come to the place where the child is completely frustrated in his attempt to read because the content is too difficult.

There is no use trying to teach a child from books at his frustration level. The place to start teaching is where the work is challenging but not discouraging. The instructional level is usually found to be the next book above the one in which the child can read with ease.

At the instructional level the child may have some trouble with vocabulary but he can read fluently enough to get meaning.

Word Recognition (Group Test Using Basal Readers)

A good screening of the basal level can be secured by constructing a vocabulary test from a single basal reader and administering it to several children at one time.

Select the book from which you wish to make the test. From the word list given in the back of the book, make a sampling of fifty words by choosing every fifth word. These fifty words are the key words. They are distributed at random on your test but with only one key word to a line, thus:

----	----	See	----	----
----	----	----	----	Come

After the key words have been distributed over the fifty lines, the remaining words in the same word list are used to fill in the four blanks on each line. Print should approximate the size found in the book. Administer the test by having the children draw rings around the key words on their papers as you pronounce them.

To give a useful index of success in this test, the child should not be rated as having mastery unless

he scores close to 100 per cent on the key words. The technique of pronouncing the word to be found provides a clue for the child. For this reason the standards of success must be high.

Word Recognition (Individual)

Select the words in the same way as for the group test, using only the key words. These words may be presented in various ways. If flash cards are made, then the order of the words may be mixed. The words may be placed on a roll and shown to the child as a hand-turned movie. The child is asked to pronounce all the words on the list. This is more difficult than the group technique. In a test of this kind the child should be able to pronounce 95 per cent of the words to determine basal level.

Vocabulary (Individual)

A quick survey, but a fairly valid one, can be made by having the child identify words directly from the vocabulary list in the back of the reader. One disadvantage of this technique is the small size of the print in the vocabulary listings.

Teacher-Made Sentences (Individual)

Where supplementary readers for testing are not available, the teacher may print on the blackboard or paper some original sentences that have in them words from the basal reader which has been selected. The sentences should contain *only words* found in the reader. The child is asked to read these sentences. The advantage here is that the child meets the vocabulary in a new context.

Familiarity with the Alphabet (Individual)

While we are not advocating the return to the old system of teaching reading by the "A B C" method, we can get some estimate of a child's experience and security with words by noting his visual recognition and listening acquaintance with letters and their sounds. A familiarity with sounds would indicate former work in ear training and phonics.

II. STANDARDIZED TESTS

Standardized tests are valuable as quick screening devices for their diagnostic qualities. The teacher can obtain from these a picture of the distribution of the range of abilities of the whole class. Children who make poor scores should be given further checking, either by using one of the informal techniques listed, or by using a standardized test on a lower level. Even though a child is eleven or twelve years of age, the primary tests will be found most useful if his mental age is six or seven years.

Work with Reading Groups at Four Levels

I. READING READINESS GROUP

Mental Age: 5 to 6 years

Games and exercises which help develop visual abilities, auditory abilities, motor abilities, sense of touch, articulation, and language are usually needed by these children. Games and exercises dealing with the development of language will be found in the language section. Naturally some activities will fit into two or more categories. Some of the following games and activities have been adapted from Monroe's material.¹

Games and Exercises to Develop Visual Discrimination

1. Place several small familiar objects on a table and cover with a cloth or paper. Remove cover, exposing objects for a few seconds. Replace cover and ask the child to name as many objects as he can recall. Gradually increase the number of objects exposed.
2. Place several objects under a cover on the table. Expose the objects for a few seconds. Have the child close his eyes while one object is removed. Rearrange the remaining objects. Expose again while the child tries to recall which object is gone.
3. Expose a simple pattern for a few seconds. Remove and have the child draw from memory.
4. Show a picture containing a number of objects. Remove and have the child name as many things as he remembers seeing.
5. Describe some object and have the child guess what it is. Have him try to visualize which object is being described. For example, "I am thinking of something little and white. It has long ears, a short tail, and pink eyes. What is it?" Describe clothes and appearance of another child until someone guesses who is being described.
6. Have the child match objects, colors, numbers, words, forms, etc.
7. Have the child count or name rows of objects from left to right. After he can count by touching each object, let him count by using his eyes alone.
8. Have the child put together simple puzzles.

Games and Exercises to Develop Auditory Discrimination

1. Listen to and identify environmental sounds as:

cars going by	cat's purr
radiator steam	dog's bark
tea kettle	wind
clock	bells
2. Imitate environmental sounds as:

snake	motorboat
train	bells
steam	animals
airplane	
3. Tap on the desk several times. The child counts silently and then tells how many taps he has heard. Vary by tapping slowly, quickly, and in irregular rhythm.
4. The teacher produces the sound of a letter. The children clap each time they hear it. Another sound of similar value may be alternated with the first sound. The children clap for only the designated sound.
5. Play the copy-cat game. The teacher gives non-sense syllables and the child repeats back exactly what he hears, as:

pa	pe	pi
aba	eba	aba
um	am	em
6. Play the echo game. A child hides in the room. Another gives sounds, words, phrases, or sentences, using different inflections and rhythms. The hidden child echoes back what he hears.
7. Have the child listen to jingles and nursery rhymes, emphasizing certain sounds, as "Bye Baby Bunting," "Hickory-Dickory Dock," etc. Choral speaking of rhymes and poems is helpful.
8. Play games in which a child must listen for a special sound.

Example a: The teacher gives a number of words beginning with the same sound and then gives one beginning with a different sound, such as man, money, mother, many, sled. The child raises his hand as soon as the word with the different sound is pronounced.

Example b: Rhyming words. The teacher prepares a list of words that have easy rhyming. She names one, for example, "top." The first child who thinks of *hop*, *cop*, *stop*, or *flop* stands by his seat. The teacher calls upon him and he must say the word so plainly that everyone in the room may hear. If it is not

¹ Monroe, Marion: *Suggestions for Special Classes in Reading Readiness*. A mimeographed publication of the Pittsburgh Public Schools.

heard, it does not count. If it is heard, it counts one for his row. The row that names the most words wins.

Example c: Make a chart containing pictures of objects beginning with the same sounds. The child points to each picture, naming it, and listening for the beginning sound.

9. Give oral directions involving two commands, then three or four. "Put the pencil on the table, hop around the room, and then stand by the desk." Watch to see if he follows the commands in the correct order. Three will be the top number for many of the children.
10. Tell a simple story of two or three sentences. Have the child retell it as accurately as possible.
11. Singing and other musical games are very helpful to children who need auditory training.
12. The teacher reads a list of words some of which are incorrectly pronounced. The children put their fingers up for correct pronunciation and down for incorrect pronunciation.

Games and Exercises to Develop Articulation

1. Paste a number of pictures on a page illustrating a certain speech sound. Prepare a page for each sound. Choose pictures illustrating the speech sound in initial, medial, and final positions. To illustrate the *k* sound, for example, paste on a card pictures of a cat, a monkey, and a duck. As the child names the pictures, note his mispronunciations.
2. Give auditory discrimination drills as described in the above section.
3. Have the child keep a notebook in which he can draw or paste pictures of objects beginning or ending with the sounds with which he has difficulty, as:

For the *s*

snake	seven	ice
snail	spoon	cats
snowman	house	bus
sailboat	mouse	sun

4. Practice the sound in easy words having only the sound to be learned, and a vowel, as: key, cow, caw.
5. Encourage the child to use one word containing the sound with which he has had difficulty, in many situations, as "yes" or "thank you."
6. Say a word as slowly as possible, then as quickly as possible. The slow performance will

prepare the child for blending sounds in phonetics. The slow and then fast performance will aid in flexibility and control.

7. Choral speaking often gives confidence to the retarded child. Rhymes, jingles, and musical poems may be used for this.

Games and Exercises to Develop Motor Coordination

1. Rhythmical work with music is helpful, such as skipping, hopping, and dancing.
2. Handwork, such as drawing, construction work, weaving, carpenter's work is also helpful.
3. Have the child trace around any large simple figure with his finger, crayon, or pencil, trying to keep on the line.
4. Have the child cut out forms, large simple ones at first, trying to cut on the line.
5. Have the child fit objects together, nested cubes, peg boards, and simple jigsaw puzzles.
6. Let the child string large beads at first; smaller ones when he is able. As he develops skill, let him string them by form, size, color, and pattern.

Games and Exercises to Develop the Sense of Touch

1. Place a few common objects of medium size under a cloth cover on a table. Let the child feel the objects through the cloth and try to identify them. This may be made difficult or easy in various ways. If the child knows what objects are under the cover the task is much easier. To make it more difficult, the similarity of the objects or the number of the objects may be increased. Later the size of the objects may be decreased. A variation of this would allow the child to touch the objects without a covering, by placing them in a bag or in a box with openings for the hands. In this case materials such as fur, velvet, silk, cotton, iron, leather, paper, glass could be used.
2. If two or more children are playing together, have one child lead the other child, who is blindfolded, to some object and have him guess what it is by touching it. He may be allowed one touch, two touches, or as many as he wishes, depending on how difficult the game must be in order to be challenging to the participants.
3. Have several children stand with their hands behind their backs. The child who is "it" comes up and places an object, such as a pencil, an

eraser, a tablet, in the hands of one of the children. If the child guesses the object correctly he is "it." Otherwise another child is given a chance to see if he can guess what the object is.

Other Games and Activities

1. Have the children make hats of paper or other material of different colors. Three of the children stand in front of the classroom wearing the hats. The hats are kept on for a short time, then removed and held behind the children's backs. The other children try to recall which color each child wore. This game may be used to teach colors or increase memory span. Variations may include using other objects or any change the teacher may wish to make.
2. A picture dictionary may be provided for each child. This should contain a page of colors labeled with the names of the colors; another page should contain the numbers, illustrated with a number of objects to represent each number. One or more pages should contain labeled pictures of some of the nouns with which practically all children are familiar, such as ball, tree, house, table, bed, umbrella, etc. The child can use this to refer to for self-help if he is supposed to color something red, or color three trees, and does not know the number or word. This would be used for readiness work just before the child is ready for formal reading.
3. Matching pictures, words, or letters. This may be done in several ways. There may be sets containing two of each picture, or word, or whatever is used. In this case the child will pair the two alike. The words or objects used may be on one sheet of paper and the child may be asked to draw connecting lines between the like objects. The objects may be in a row and the child requested to find ones which are alike and draw rings around them. The teacher may think of many variations.
4. Clay may be used to illustrate stories or to make models of something in which the child is interested. Drawing or painting may be used in the same way.

II. BEGINNING STEPS IN READING

Mental Age: 6 to 7 years

Children in this group should be able to complete successfully any of the activities listed in the readiness section. The first task of the teacher is to appraise the reading level of the children for whom she does not have that information. To do a useful job in evaluating reading levels a teacher does not

need elaborate equipment or technique. A discussion of several methods which may be used is given in the section on Methods of Finding Reading Level of the Child, page 445. The teacher who is not familiar with the techniques should refer to this.

Some of the activities described below cannot be used with children until they have a reading achievement level approximately equal to the middle of the first year. An example of this is the true-false or multiple-choice type of question.

Activities Which Demand the Presence of the Teacher

1. Draw upon the child's own experiences. (Be sure the experiences are the child's and not the teacher's.)
Through appropriate magazine illustrations
By showing and discussing objects, pictures, terms, etc.
Through conversation
Through story-telling
2. Provide activities which stimulate the desired attitudes and interests, and provide necessary language background (e.g. store projects, farm projects, Indian projects, circus projects.)
3. Provide directed reading activities—
Reading a story for the purpose of telling it to the teacher
Selecting amusing incidents in a story
Reading to answer questions
Rereading the page as a whole to get the central idea
Rereading to find a certain part, such as the part that tells
Rereading orally the part each child likes best
Rereading conversational parts
Rereading for any other particular purpose
4. Make a booklet of experience stories dictated to the teacher by the child.
5. Have the teacher write riddles made up by the child.

Activities Which Do Not Demand the Presence of the Teacher

This work is sometimes supervised, as indicated, by another pupil.

1. A workbook may be selected to accompany the basal reader, if a basal reader is used. If a basal reader is not used, preference should be given to workbooks or reading-readiness books not previously used, which will supplement the instruction.

smell, taste, or touch. The lists may be divided into words which tell you how, when, and where.

3. The child may be asked to indicate whether pairs of words are opposite or alike.

good—bad	happy—unhappy	small—little
slow—fast	big—little	play—work
sick—well	tall—high	black—white

4. He may make sentences for each spelling word, or words with which he is having trouble.
5. After a child reads a story he may be asked to play a "who" game; see how many questions he can make up which begin with "who."
6. Sentences which tell a story are given in mixed-up sequence. The child is to arrange them in correct order. At this stage these sentences should be made quite simple.
7. The child may be given riddles to solve.
8. A game may be played in which several pictures are accompanied by strips containing descriptive sentences or titles. The child is to pick the one which best fits the picture.

IV. READING — *Mental age: 8 to 11 years*

The first thing to be done is to find the child's actual reading achievement level, if this is not known. Methods of doing this are found on page 445 of the section on reading. Many of the reading activities mentioned in the two previous sections may be adapted for use by increasing the difficulty of the work.

If a child is able to read material of third-grade difficulty or above, it is not hard to provide independent work for him. It takes just a little thought and time on the part of the teacher. Every teacher should have available for her use reading material of difficulty at least two grades below the grade she is teaching. If she does not have this, she should ask for it and continue to ask for it until she gets it. Many of the methods and devices used for regular classwork may be used successfully with slow children as long as the reading material is on their instructional and interest level.

Children in this group should not be required to read aloud to the class unless the teacher is

¹See Rue, Eloise. *Subject Index to Books for Primary Grades*. (For help in locating topical references in many common classroom texts.) American Library Association, 1943.

Subject Index to Books for Intermediate Grades, Am. Lib. Assn., 1940.

²See Stone, Clarence and Grover, Charles, *Practice Readers*, Webster, 1942. Interesting reading at fourth to eighth grade reading levels. Selections are short with comprehension exercises.

³*Reading Skilltexts*. Grades one to eight. Charles E. Merrill Co.

sure they can do it well. They should be allowed to proceed as fast or as slowly as their ability requires. They should give some evidence of progress and success. This may be indicated by charts or some other means which shows each child's progress as compared with himself, not with other members of the class. The teacher should remember to offer praise when it is deserved in terms of his ability, not in terms of work expected of the grade.

Many classes above the third grade have regular instruction in history, geography, and other content subjects. The reading of this material is above the level of the slower children. One of the things which may be done to help in such a situation is to provide easier material which gives some of the desired information. Many of the present basic readers have stories about different periods in history and stories about children in other lands which may be used. These will not give all the information contained in the history and geography books, but may be used to supplement or to give background information.¹

Much of the subject matter of the content subjects remains more or less the same from year to year. Each year the teacher may rewrite some of the material, making it easier for the slower children. This may be typed or written on oak tag with suitable pictures pasted at the top. It may contain questions for comprehension checks. It can be saved and used from year to year since each teacher always has some child who needs such help.

Time can be well spent on oral reports given by members of the class. It is a much better teaching technique to have the children give reports to the class on different phases of history and geography, than for the teacher to ask questions of the class. Although the reports which the mentally retarded child can give will be limited in content, length, and number, he will profit from the reports of the other children.

Inexpensive books are available which provide interesting exercises for independent work on a level lower than that of the class.²

Workbooks are available also which can be used independently of a reader. These, too, are inexpensive, and can be used to provide individual work for children who need it.³

The teacher may prepare material on oak tag, heavy paper, or newsprint, which may be kept from year to year. The following exercises are suggested examples of such material.

1. The teacher writes two or three words which are similar in some way. The pupil is to write another of the same type.

- a. baby, mother, grandfather (father)
- b. orange, red, yellow (blue)

2. The teacher prepares a list of words which can be placed in general groups.

blue	<i>Colors</i>	<i>People</i>	<i>Fruit</i>
baby	blue	mother	apples
pears	red	baby	pears
mother			
apples			
red			

3. Prepare a series of words, three of which belong together; the word which does not belong is to be crossed out. This can be made easy or very hard.

- a. mother baby father ~~book~~
- b. blue ~~run~~ red green
- c. airplane helicopter wagon ~~pilot~~

4. List all the words you can think of which begin with "s."

5. Give a list of words to be marked same or different:

good	bad	S	<u>D</u>
little	small	<u>S</u>	<u>D</u>
whole	all	<u>S</u>	D

6. The teacher should discover some of the child's interests and provide material on these subjects. After a book has been chosen for a child, some of the following devices may be used:

- a. The child may make a story book of his own illustrations by drawing pictures which follow the sequence of the story.
- b. After the paragraph is read he may be required to answer fact-finding questions, "yes" and "no" questions, multiple-choice questions, or completion questions.

7. The children should be encouraged to keep a record of the books or stories they have read. These reports should be brief, containing only the name and author of the book or story read, the date read, and a one or two line comment on the story.

8. The child may receive written directions for doing something or making something. This may be very easy or difficult, to suit the needs of the particular child. For example, if the

child is studying about airplanes the directions may read: "Draw a picture of an airplane. Put two airplanes on the ground and show one flying. Draw a pilot going toward one of the airplanes."

9. Children in the upper mental age group should begin to receive work in indexing. A simple way to begin is to give some mixed letters to be alphabetized. This is an excellent opportunity to teach the alphabet if the child does not already know it. The next step could be a list of words beginning with different letters to be alphabetized.
10. The table of contents should be familiar by the time the children have reached this level; if it is not, practice should be given in its use. Any book may be used. Questions such as the following may be used: Is there a story in the book about an airplane? On what page is the story? Who wrote the story?
11. Make a set of cards using the 220 words of the Dolch Basic Sight Vocabulary list.¹ These word cards may be used for games and drills.

Additional Suggestions to the Teacher

Time-Savers

1. Have other children help prepare and correct work when it is feasible. Be sure it does not interfere with their own work or progress, or that one child does not do too much.
2. Prepare as many activities as possible in forms which may be used more than once. Have the child do his work on separate sheets, thus saving the original form.
3. If there are other teachers in the building, share as many plans and activities with them as possible.
4. Have interesting extra work planned for any child who has free time. This may be making something needed for a class activity, as paper tulips for scenery for a Dutch play, etc. It may be drawing or making something for an individual activity in which the child is interested.

Methods of Showing Progress

1. An 8½"x11" sheet of construction paper, oak tag, or other material may be labeled "Books I Have Read," or any other desired title. On this in a row the child may paste a small folded piece of colored paper to represent a book or story he has read.

¹A list of these words is given in the language section of this Chapter, p. 465. They may be purchased from the Garrard Press, Champaign, Ill., for 50 cents per set.

2. Instead of the above the child may paste colored paper on an empty safety-match box for each story or book read, labeling it with the title. Make a rack for these from a cheese box.
3. Various forms of graphs, indicating progress and achievement in reading.

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ARITHMETIC

Arithmetic taught to the mentally retarded child should be as practical as possible. The child's age, his maturity level, and his experiences are factors which are significant in determining the approach to use with him. The extent of opportunities the child has had in becoming familiar with actual number concepts will vary greatly depending upon his environmental background. The teacher must be resourceful in planning appropriate activities in relation to his specific needs.

Work with Arithmetic Groups at Three Levels

I. ARITHMETIC READINESS—*Mental Age: 5 to 7 years*

The aim of beginning number work is to organize the child's concrete number experience into meaningful concepts which may later be translated into symbols, and to provide the child with appropriate new experiences.

A large part of the work in developing number readiness will be oral. The suggested activities given here are intended to stimulate the teacher's thinking; they do not purport to be all-inclusive.

Some Basic Considerations in Developing Arithmetic Readiness

1. The child's present level of mental development will determine his activities. Do not underestimate the child. An older child with this mental age will have had some number experiences.
2. The child's rate of learning must be considered.
3. The learning situation should be as real as possible.
4. The child must see sense in what he learns.
5. Meanings must precede symbols.
6. Understanding must precede repetitive drill.
7. Practice must be properly distributed.
8. It is necessary to review frequently previously learned concepts.
9. The manner in which the child uses numbers in his thinking is as important as the results of his thinking.
10. The child learns best when he is aware of personal growth.
11. Make use of multiple-sense learning: seeing,

hearing, saying, touching, drawing, moving, etc.

12. Plan orderly development in the child's quantitative thinking.

Suggested Activities for Developing Arithmetic Readiness

A. Pre-Arithmetic Vocabulary (Method: Oral — Pupil activity—Concrete situations)

1. Location: Over, under; above, below; high, higher, highest; back, front; right, left; beginning, end; first, last; far, near; between, middle; outside, inside.
2. Size: Big, little; bigger, biggest; large, small, larger, largest; smaller, smallest; tall, short; wide, narrow.
3. Weight: Heavy, heavier, heaviest; light, lighter, lightest.
4. Distance: Long, short; longer, longest; shorter, shortest; near, far.
5. Speed: Slow, slower, slowest; fast, faster, fastest.
6. Time: Before, after; today, tomorrow; yesterday; early, late.
7. Cost: Little, less; much, more; most, least.
8. Quantity: Some, none; many, more, most; less, few, fewer; much, some, none; less than, more than; as much as; as many as; pair; couple.
9. Form: Square, circle; round; straight, crooked.

CONCRETE EXPERIENCES MAY BE PROVIDED IN THE FORM OF GAMES

Examples: (Suggestive only; the teacher may wish to add to this list.)

Put the pencil *on* the desk.

Give me the *big* pencil.

Which pile of blocks has the *most* in it?

John, walk to the door the *shortest* way.

Mary, walk to the door a *longer* way.

Give the *first* girl the *heaviest* book.

Which child is the *farthest* from the desk?

Who is the *smallest* child; the *largest* child?

APPROPRIATE WORK SHEETS MAY BE PROVIDED

Examples: (Directions oral)

Begin with simple activity:

Point to the *biggest* house.

Place your finger at the *top* of the paper.

Point to the *most* balloons; the *smallest* house.

Later this type of activity may be used with same sheet:

Put a *circle* around the *biggest* house.

Make a *square* at the *top* of the paper.

Draw a *straight* line from the *most* balloons to the *smallest* house.

Make a square at the *left* of the *middle* house.

B. Enumeration by 1's to 5, then to 10, to 20. (Limit may be extended for more capable children.)

Rational counting may at first be done by several children in concert, then individually. Count objects in the room; doors, windows, pictures, desks, erasers, piano, goldfish, plants, books, boys, girls, etc. Count to the bouncing of a ball, the tapping of a bell or pencil. Number rhymes and games suggested in primary books will prove a valuable aid in serial counting.

Serial counting does not imply the child knows quantity. He may be able to count six pencils but cannot answer the question "How many?" The concept of quantity is the next step in the child's arithmetic readiness. Starting with small quantities—one, two, three, four—through varied repetitive drill using concrete situations, the child will develop this basic concept and will be able to tell "How many."

Use concrete situations: Count the number of children present today. Distribute the books and count them. Mark the calendar for today, and count how many days have been marked this week, this month. Actual life situations will help with the development of meaning.

Use games: Bead stringing, peg boards, etc.

Grouping objects by 2's; counting objects by 2's to 10. (Limit extended for more capable pupils.)

The teacher may wish to devise games following the suggestions above. Use small objects which are easily manipulated, such as blocks, beads, seeds, etc.

C. Reading and Writing of Numbers to 10

At first use large-muscle activity by writing on blackboard. Tracing over the symbol may at first be necessary to establish the proper muscular pattern. The name of the symbol must be associated with the visual symbol. Let the child say the name as he makes the number. Teach one number symbol at a time.

Work sheets may be devised to give practice in reproducing symbols.

For example: Trace with crayon the large numbers on the paper. Reproduce in each square the number given in the top row. (Block off paper into half-inch squares for this.) At first copy only a single number, then two, then three, etc., until child can form all numbers 1 to 10 from copy. Next step is to make numbers from memory without copy. Fill in the missing numbers in the squares. Count the number of balls, etc., and make the number.

Games: If number squares are not available, use cardboard squares with cut-out calendar numbers pasted on them. Present numbers out of order and have child arrange in order.

D. Understanding the Meaning of Digit Symbols

Let the child understand the meaning of the number by associating the number with objects.

Examples:

Count the doors in the room and point to the number which tells how many.

Count the windows in the room and let the crayon tell how many.

Count the girls in the first row and let the pencil tell how many.

Match the number on the cardboard square with the same number of beads, seeds, etc.

Provide the child with a variety of experiences which will firmly establish the number concepts.

Examples:

Jack may erase all but the number which tells how many windows are in the room.

Betty may draw a circle around the largest number.

Erase all but the number which tells how many days are in the week.

Write the number which tells how many eyes you have; how many fingers on your right hand.

The teacher will have little difficulty in devising a large number of work-sheet activities appropriate for this level of instruction.

Examples:

A sheet with circles could be used thus: Color this number of circles blue, this number red, etc. (The teacher holds up a card with a large digit on it or writes the number on the blackboard.)

A sheet with grouped objects varying in number from 1 to 10. Oral directions: Count the number of birds, houses, balls, etc., and write the number.

A sheet with a number of familiar objects and large digit symbols 1 to 10 at the bottom. Oral instructions could be as follows:

Put a cross *under* the *number* which tells how many balls.

Put a square *over* the *number* which tells how many houses.

Put a dot *on* the *number* which tells how many birds.

E. Time. (Use clock face with movable hands.)

Identify: hour. (Half-hour, quarter-hour for more mature pupils.)

Pupil activity:—Let John move the hands to the hour at which we come to school.

Let Mary place the hands to show 10 o'clock, etc.

F. Money Values to a Dime. (Use actual money.)

Know value of a penny, nickel, and dime in terms of buying familiar objects: candy, pencil, spoon, milk, etc.

How many pennies in a nickel? in a dime?

How many nickels in a dime?

How many pennies with a nickel make a dime?

Use games to make these experiences real. (Avoid making change, subtraction, at this level.)

Examples:

John needs a dime. Mary will give him a nickel,

Betty will give him the pennies he will need.

I have a nickel; who will trade pennies for it?

I have a dime; who will give me nickels for it?

I will give you pennies for your nickel; how many do you want?

When a given child indicates he has accurate knowledge of the above number concepts, it may be presumed that he has sufficient background to attempt the more formal number work suggested in the next section of this bulletin.

II. ARITHMETIC—*Mental age: 7 to 9 years*

At this level it is important to present number facts in orderly progression from simple use of number symbols to the more complex use of symbols. Emphasis upon the manner in which the child uses numbers is continued while emphasis upon accuracy becomes important.

The mentally retarded child has need of basic number facts to make satisfactory life adjustments. The instruction should continue to be as practical as the teacher can make it. Use every possible situation from the child's own experiences rather than follow "problems" given in an arithmetic book. Use all the meaningful drill you can. Play games in

which the number skills have a part. Prepare small sets of cards with the answers on the back for individual practice. Let the pupils give one another practice.

Progress with number symbols may be much slower than that experienced by other children in the class. The teacher is cautioned that speed in progression is not the important thing. Make certain the child is able to use one level of number skill before attempting the next level. The child is interested in making progress. Make a skill chart for the individual child which may be appropriately marked with stars or a colored bar to indicate progress. (Do not compare his progress with that of any other child.)

The progression of number facts given here represents the basic minimum skill needed. The teacher must adapt the instruction of the individual mentally retarded child to the program of her class. Some individual work with the child will be necessary. In many classrooms the teachers find it possible to arrange for additional individual help to be given by alert pupils without jeopardizing the better pupil's progress.

No attempt should be made to have the mentally retarded pupil keep up with the normal pupils in the class by requiring the mentally retarded pupil to do less of the same work planned for the normal pupils. The mentally retarded child needs *not less* of a program designed for the normal child, but *a great amount* of practice in number facts appropriate to his own needs.

Basic Skills Appropriate for this Level of Mental Ability

1. Enumeration by 1's to 100 is accomplished at this level. (Both counting of small objects and rote counting.)
2. Reading and writing numbers to 100.
3. Understanding the meaning of addition and subtraction.

Suggestion: Use blocks, beads, seeds, etc. Two blocks here and one block here, place them together (add); this makes three blocks (count). Four beads here, take one away (subtract); this leaves three beads (count). The child should learn at the same time the meaning of both addition and subtraction to the point where he can demonstrate with objects first to the sum of 4, then 5, 6, 7, 8, 9, and 10. (Or the teacher may follow any other systematic number progression now in use.) This is to develop meaning only. When

the child understands the facts, each fact is learned as a separate memory item. Counting is not used at this time. (It is very important that the child have an understanding of the meaning of addition and subtraction facts before there is any abstract memorization.)

4. Writing and reading of number combinations to ten in horizontal and vertical form. Include the reading of the signs $+$, $-$, and $=$. (Both addition and subtraction) *Examples:*

$$\begin{array}{r} 2 + 1 = 3 \\ 4 \\ - 1 \\ \hline 3 \end{array} \quad \begin{array}{r} 2 - 0 = 2 \\ 2 \\ + 2 \\ \hline 4 \end{array}$$

At this stage of presentation emphasis is upon accurate reading of the symbols. Memorization is delayed until the child can read accurately.

This activity lends itself well to individual instruction offered by an alert pupil in the class.

5. Mastery of the addition combinations and subtraction facts through 4. As the child develops understanding for addition and subtraction the use of objects will be discontinued.

The child now learns the combinations in all forms as a complete automatic response. Repetition aloud in group chorus, and individual repetition aloud and silently, are suggested. Writing the answers should be delayed until the child has learned the combinations. This is a memory task, not a problem to be solved. It cannot be too greatly stressed that the oral automatic response is important at this stage of number development.

Teach all forms both vertical and horizontal—

$$\begin{array}{r} 1 \\ + 1 \\ \hline 2 \end{array} \quad \begin{array}{r} 1 \\ - 1 \\ \hline 0 \end{array} \quad \begin{array}{r} 1 \\ + 2 \\ \hline 3 \end{array} \quad \begin{array}{r} 1 \\ + 3 \\ \hline 4 \end{array} \quad \begin{array}{r} 2 \\ + 1 \\ \hline 3 \end{array} \quad \begin{array}{r} 2 \\ - 1 \\ \hline 1 \end{array}$$

$$\begin{array}{r} 2 \\ + 2 \\ \hline 4 \end{array} \quad \begin{array}{r} 2 \\ - 2 \\ \hline 0 \end{array} \quad \begin{array}{r} 3 \\ + 1 \\ \hline 4 \end{array} \quad \begin{array}{r} 3 \\ - 1 \\ \hline 2 \end{array} \quad \begin{array}{r} 3 \\ - 2 \\ \hline 1 \end{array} \quad \begin{array}{r} 3 \\ - 3 \\ \hline 0 \end{array}$$

$$\begin{array}{l} 1 + 1 = 2 \\ 2 - 1 = 1 \\ 3 + 1 = 4 \\ 3 - 3 = 0 \\ 4 - 3 = 1 \end{array} \quad \begin{array}{l} 1 - 1 = 0 \\ 2 + 2 = 4 \\ 3 - 1 = 2 \\ 4 - 1 = 3 \\ 4 - 4 = 0 \end{array} \quad \begin{array}{l} 2 + 1 = 3 \\ 2 - 2 = 0 \\ 3 - 2 = 1 \\ 4 - 2 = 2 \end{array}$$

Use visual aids. Let the child see the entire memory response while he is memorizing it. Blackboard and cards should show the entire combination for initial memorization period.

When working for complete mastery, use conventional type of flash cards with the sum not shown. For individual drill, use cards with the sum shown on the back of the card so that the child may check the memory response by turning the card over. Repetitive drill to assure mastery is important. (This is an activity that lends itself well to individual aid given by another pupil.)

Teach addition combinations and corresponding subtraction facts together.

Many games may be devised by the teacher to motivate this learning process. Several blackboard and other games are offered here as suggestions to the teacher:

- a. Who Can Climb the Ladder?

The teacher draws a ladder on the blackboard. At each step in the ladder a number fact is written. (Use both addition and subtraction facts, thus: $4 - 2 =$; $2 + 2 =$.) Each child in his turn climbs the ladder by giving the complete number fact. When a child reaches the top some recognition is given. Use any form of recognition appropriate to the age and interest of the child. Example: A star may be placed on the individual progress chart.

- b. Who Can Walk a Mile?

The teacher draws a winding path on the blackboard. At intervals on the path a number fact is written. (Use both addition and subtraction facts.) Each child in his turn starts at the beginning of the path and attempts to walk a full mile by giving the complete number facts as they are met. (Recognition is given for success as indicated above.)

- c. How Many Fish Are in Your Aquarium?

Cut numerous heavy paper (or cardboard) designs in the form of a fish. On each fish write a number combination or subtraction fact. As the child gives the number fact the fish is placed in a box or aquarium; any not known are placed on a separate pile for further memorization. See who has the most fish on a given day. (Give recognition as indicated above for satisfactory performance.)

- d. Buy Your Christmas Cards.

Use discarded Christmas greeting cards. On each card place a number combination or subtraction fact. The child starts out to

"buy" a box of greeting cards from another child. Each number fact properly given by the child is "bought" and taken by the child. If the child fails to give the proper number fact he does not buy it. See who can buy the most greeting cards.

6. Apply to actual life situations the number facts learned.

The child will learn much more readily if he sees the need for this new skill. Activities that can be carried out in the classroom should be used in applying the number skills. For example: I had four pencils in my desk; I gave one to Mary. How many have I left? Make the application real. Let the child actually experience situations using number skills rather than follow problems suggested in the books designed for normal children. Devise simple games in which the child applies his number skills. Keeping score for simple games such as "Toss the Bean Bag" will provide real experience. Answering simple questions—such as, How many more boys than girls are standing?—will mean much more for the mentally retarded child than a problem with which the child has no experience.

7. Mastery of addition combinations and subtraction facts to five, then to six, seven, eight, nine, and ten. (Or the teacher may follow any other systematic number progression now in use.)

Mastery and application at each level of number skill should follow the same pattern as that indicated above. Progress will be slow. Possibly not more than one new set of addition or subtraction facts will be presented in a given week of school. (For example: $4 + 1 = 5$; $5 - 1 = 4$; $1 + 4 = 5$; $5 - 4 = 1$.) Many children who are seriously retarded will require much more time than a week for mastery at each level.

At each level review all previous skills before introducing a new skill. Review both actual memorization of the facts and the application of facts to life situations.

The more mentally mature pupil whose mental age approaches nine years should be able to master the entire 100 addition combinations and subtraction facts.

8. Present in whatever order the teacher may find appropriate:

Counting by 10's to 100. (Rote only)

Counting by 5's to 100. (Rote only)

Counting by 2's to 20. (Use of objects and rote)

Counting by 3's to 30. (Use of objects and rote)

9. Understanding of $\frac{1}{2}$ and $\frac{1}{4}$ as related to an object. (One-half an apple, one-fourth of a piece of chalk.)
10. Multiplication concept as an outgrowth of addition facts, as: two 2's are 4; two 3's are 6; two 4's are 8. (Multiplication combinations to be taught at a later mental age.) Teach corresponding division facts along with multiplication facts.
11. Making change. Use real money. Devise real problems employing addition and subtraction facts already mastered.
12. For more mature pupils (mental age approaching nine) as a real need arises and only if it can be accomplished without excessive pressure on the child—
 - a. Addition of 2-figure and 3-figure numbers
 - b. Column addition to five addends
 - c. Dollars and cents
 - d. Carrying
 - e. Borrowing
 - f. Telling time to five minutes, then accurately
 - g. Multiplication facts: 2's, 3's, 4's, and 5's

Suggestions for Improving Instruction

At each level review all previous skills. Understanding comes before abstract memorization. Do not attempt to present a new skill before the child is ready for it. Continuous progress rather than failure at a too difficult level is good teaching.

Remember that by age sixteen the mentally retarded child will probably have number skills not beyond that appropriate for fifth or sixth grade. Give the child a good foundation for building later skills.

The minimum basic facts suggested here, well learned and applied to life situations, will mean much more to the mentally retarded child than poorly learned more comprehensive number skills.

The child is encouraged if he can visualize his progress. Keep an individual chart for him on which skills are broken down into small steps so that continuous progress is shown. A chart on which is indicated the child's own progress in various skills is preferred to a chart which compares the retarded child with other children. A sample progress chart is offered as a suggestion for the teacher.

PROGRESS CHART

Pupil_____

ARITHMETIC		SPELLING		READING	
Reads and writes numbers to 90					
Reads and writes numbers to 80					
Reads and writes numbers to 70					
Reads and writes numbers to 60					
Reads and writes numbers to 50					
Reads and writes numbers to 40					
Reads and writes numbers to 30					
Reads and writes numbers to 20					
Counts to 100 (rote)					
Counts to 90 (rote)					
Counts to 80 (rote)					
Counts to 70 (rote)					
Counts to 60 (rote)					
Counts to 50 (rote)					
Counts to 40 (rote)					
Counts to 30 (objects)					
Counts to 20 (objects)					

III. ARITHMETIC — *Mental Age: 9 to 11 years*

The mentally retarded child at this maturity level will have had a variety of number experiences including successes and failures. The first task of the teacher is to determine the child's present skill. Simple tests devised by the teacher to determine the child's skill with the number concepts described in the two previous sections of this bulletin may prove of more value than standardized diagnostic tests. Should the child be found deficient in any areas previously presented, the teacher should provide the appropriate learning situations to develop these specific skills. With this level of mental ma-

turity, the previous skills should be readily mastered.

It should be recognized that a considerable number of mentally retarded children will discontinue school attendance without having instruction beyond that provided at this level. Therefore, it becomes important to provide the number experiences which will enable this individual to make the best possible adjustment in adult society.

Age of the child will be an important factor in determining the nature of the arithmetic experiences. The boy or girl nearing the age of sixteen will resent repetitive drill and "number games" but will be challenged by arithmetic applied to a real life situation.

Guiding Principles in Developing Appropriate Learning Experiences

1. The material must be interesting to, and have meaning for, the learner.
2. The slow pupil can understand relationships if explanations, using small numbers, are accompanied by objects, drawings, and other visual aids.
3. Slow pupils profit through the use of activities and laboratory work.
4. Every topic selected should contribute to the social (home, community) needs of the pupil.
5. The social value of the topic must be evident to the pupil.
6. The pupil must succeed with the material. The difficulty must be at the level where he can succeed and build very carefully and gradually.
7. The principle of "learning by doing" is of great importance when dealing with slow pupils.
8. Thoroughness rather than speed is important.

Some Basic Skills and Suggested Activities Appropriate for This Level of Mental Maturity

1. Review and continued practice upon addition skills.
2. Concept of carrying in addition.
3. Review and practice upon subtraction skills previously introduced.
4. Concept of borrowing in subtraction.
5. Multiplication introduced as a special case of addition.
6. Multiplication facts as applied to social situations.
7. Division introduced with concrete objects.
8. Long division skills as applied to social situations. (No more than two-place divisors.) Cor-

responding multiplication and division facts taught together.

9. Understanding the meaning and use of simple fractions.
10. Concept of decimals. (Halves, fourths, eighths, and tenths as decimals.)
11. Telling time accurately; use of thermometer and calendar. (Keeping a daily temperature graph.)
12. Common linear, liquid, and dry measures. (This offers ample opportunity for social application.)
13. Making change—two-, five-, ten-dollar bills.
14. Reading picture, line, and bar graphs.
15. Computing percentage as a form of decimals.

Some Additional Skills for the Older Boy or Girl Who Will Soon Seek Employment

1. Computing wages. Knowledge concerning prevailing wage rates for probable type of employment.
2. Specific arithmetic skills necessary for success in employment of the type in which the boy or girl is interested.
3. Reading and understanding large numbers used in business. (The daily newspaper provides a rich source.)
4. Managing money, effective shopping, cashing a pay check.
5. Installment buying (credit accounts), catalog buying.
6. Savings account. Checking account.
7. Buying insurance, paying taxes.
8. Budgeting the family income.

The instruction appropriate for this level suggests that no one textbook can be used; rather it requires that the teacher plan for the child's par-

ticular needs and draw upon a wide source of material. Written problems should be used only when the pupil's accurate reading level is at or above the difficulty presented by the problem. The reading itself should offer no handicap to the solution of the problem.

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LANGUAGE

Most children enter public school at the age of six. They come with certain habits of speech fairly well established. Some speak readily, while others express themselves with great reluctance. The general quality of any child's language depends upon what he has had as a pattern during his preschool days.

As a rule the retarded child experiences difficulty in trying to express his ideas clearly and effectively. Therefore, it is difficult for the teacher to correct the child's faulty manner of expression and at the same time foster his desire to express himself freely. For this reason it is essential that instructional material be based upon areas of experience which invite the child's attention and sustain his interest.

It is frequently said that "what these mentally retarded children need is drill, drill, drill!" It is, of course, true that they need more practice than average children do to acquire a skill. It is also true that they require more help in seeing the application of the skill to their real-life needs. A bright child may be able, when the occasion demands, to apply a skill which he has learned in isolation. The slow-learning child does not have this ability to analyze, synthesize, and see analogies. It is important to have him practice the skills in meaningful situations.

The curriculum for Grades 1 through 4 provides the bulk of suitable material for developing the language ability of a child whose mental age is included in the range from 5 to 10 years. Additional material may be obtained from books designed for Grades 5 and 6, but in general the content is too difficult and must be adapted to the child's mental level.

Language Work at Two Levels

I. MENTAL AGE RANGE: 5 to 8 years

Language training in this mental age range will be largely oral, except for those older pupils who are able to use profitably workbooks or practice exercises especially prepared for language development.

In these primary stages of training, informal conversation affords the child an opportunity to learn words and how to use them. Oral practice tends

to develop an awareness for sentence sense. Group projects based upon actual experience encourage the retarded child to plan, to cooperate, and to follow directions. The retarded child is most dependent upon his ability to express himself orally. He will not tend to be creative and therefore needs much practice in the simpler accepted ways of communication and self-expression.

All of the basic language skills are of necessity incorporated in the reading program. Although there is a broad area of overlapping activities between reading and language, some suggestions follow for language development in which those who make slow academic progress may actively participate.

Pupil Activities

1. Extending invitations and greetings (oral and written).
2. Composing thank-you messages (oral and written).
3. Sending and delivering notes or messages, as to a classmate who is ill.
4. Making requests (oral and written).
5. Practicing simple, accepted social courtesies.
6. Helping maintain the bulletin board by printing announcements and posters, labeling, and arranging pictures.
7. Making scrapbooks built around special interests and experiences, and using these as a basis for class discussion.
8. Participating in choral speaking and dramatization.

Specific Activities for Increasing Language Abilities¹

1. Show an interesting picture. Encourage the children to talk about the picture. Help them to increase the length of their sentences in describing the picture.
2. Help the children to classify objects. Have them make a chart of pictures illustrating a general idea, such as fruits, vegetables, furniture, animals, things mother does, toys, opposites, numbers, colors, and so forth.
3. Read a story to the children. Question them about the story. Have the children retell the story.

¹ Pittsburgh Schools Volume XVII, Number 3. *Suggestions for the Improvement of Language Arts in the First Grade*, by Dr. Marion Monroe and Associates.

4. Have a report of current events—a "news" period.
5. Encourage the children to bring toys, pets, and other objects to school and talk about them.
6. Take the children on excursions and later have them discuss their experiences.
7. Make a game of prepositions. For example, have the children put an object in, on, under, beside, below, above, or behind the box.
8. Make a game of adverbs. Have the children walk quickly, slowly, sadly, quietly, noisily, happily, and so forth.
9. Make a game of adjectives. Find a number of different balls or other objects. Ask the children to identify the blue, red, big, little, striped, smooth, hard, or soft ball. Have them pretend they are big, little, brave, happy, unhappy, kind, old, or young. Let them describe objects, each other, their clothes, and other items in their environment.
10. Make a game for verbs. Have the children walk, run, hop, work, play, and so on. Question the children: What can a boy do? What can a girl do? What can a tiger do?
11. At the beginning of the year let each child make a book about himself—"My Own Book." On the first page draw a picture of self, clothes colored appropriately, etc.; on the following pages—my home, people in my family, my toys, games I play, what my father does, etc. This will stimulate discussion and serve as a basis for getting acquainted with children and for learning their concepts of home and family. Do this again near end of school year to show development. This will serve as a very meaningful book to the child—all about himself.

II. MENTAL AGE RANGE: 8 to 11 years

Pupil Activities

Activities enumerated for the lower mental age range may be modified for use at this higher level.

The following additional suggestions may be used in the development of useful language experiences:

1. Introducing people.
2. Relating experiences in caring for plants, pets, etc.
3. Keeping charts of attendance records (reasons for absence).

4. Celebrating holidays and birthdays.

Parties or special programs afford opportunity for social training as well as language development.

5. Preparing a class chart of weather conditions.
6. Using the telephone.
7. Learning how to give simple directions.
8. Writing both personal and business letters. Filling out applications, order blanks, checks, etc.

An Experience Unit for Developing Language Skills

An area of experience in which children take a great deal of interest is described below to point out opportunities for purposeful and meaningful practice in oral and written language.

A CLASS DIRECTORY

MENTAL AGE RANGE: 8 to 11 years

Selecting the Title

The children may choose to call this a directory, after examining a telephone or city directory, or they may choose to call it Our Class Book, or Our Yearbook, or something more original, depending upon their experiences.

Selecting the Book

A committee may go to the store with the teacher to select a scrapbook. They will consider size, weight, color, surface of covers, texture of paper, and type of binding. The committee may take the responsibility of making the choice, or they may report their findings to the class and make a choice after class discussion. This provides sensory experiences, conversation, informal discussion, oral reports, formal group discussion, and shopping courtesy.

Planning the Book

Practice in conversation is provided in planning the arrangement of the book and the items included, as snapshots, names, addresses, birthdays, color of eyes and hair, favorite pets, toys, stories, poems, games, and songs.

Making the Book

It may be agreed to have a page for each child with more added as needed, if it is a loose-leaf book.

If snapshots are brought in by the children there is opportunity for interesting oral stories about the

occasions on which they were taken. Need for check-up of some item of information may give occasion for the teacher to call the children on the telephone at their home by prearrangement. This could be preceded by classroom practice in telephoning through dramatizing.

If favorite stories are to be listed, this may call for retelling known stories in part or completely, depending on the length. Standards for both the storyteller and the audience should be emphasized.

If favorite pets or toys are to be listed, original stories about these will be forthcoming. This interest may lead to exhibits which call for labels, signs, and bulletins.

Invitations to other classes may be composed by the group and used for handwriting practice. The guest class will enjoy oral reports by the children about the items they have contributed to the exhibit. These short oral stories should be rehearsed in preparation and should conform to established standards, as (a) have an interesting beginning, (b) stick to the point, (c) have a good ending.

In all oral and written language, usage standards should be kept in mind, without spoiling the spontaneity and social pleasure of the situation. Freedom of expression is more important than correctness of expression, but correctness is important. Observe the most flagrant and frequent errors made by the children and work to eliminate them one at a time. Start a campaign on one correct form. Before class discussions and reports begin, recall the correct usage which is being emphasized.

General Comments and Suggestions for the Teacher

1. Activities emphasized here are chosen because of importance to the child in everyday life, his interest, and probable ability to participate.
2. Follow the Teacher's Guide for good sequence and suggestions when using a textbook.
3. Make use of the Dolch Basic Sight Vocabulary List which is given on page 465.
4. Encourage the pupil to participate frequently in oral discussion.
5. Evaluate his efforts, commend him whenever possible, help him to understand his mistakes, and have him correct them.
6. If his attempts to achieve are evaluated and his progress encouraged, he will learn to work.

If his efforts are ignored, he will cease to try, and his idleness will create a problem.

Spelling

In general the retarded child should not be expected to learn to spell words which he does not understand or use. Various methods of teaching should be employed in order to find an effective method for him. Our modern spelling texts describe good study procedures. Some children who have failed to learn by commonly used methods experience success when kinesthetic methods are applied. The latter procedure makes use of copying or tracing.¹

It must be realized and emphasized that the mentally retarded child is not able to master as many words in a given time as the average pupil. His assignment should be shorter and consist of words chosen from a basic vocabulary supplemented by words of particular importance to his own environment, as names of local importance and industrial terms. Words which he finds troublesome or which fit a particular personal need should be included on individual lists.

A method which can be used to keep a record of and to make available for the child the words he needs to learn to spell can be developed with the use of envelopes. Label one envelope WORDS I KNOW and the other one WORDS I NEED TO LEARN. Each time the child is confronted by a word that he needs to learn to spell, it is written on a slip of paper and placed in the Need to Learn envelope. When the spelling of a word has been mastered, the child transfers it from the Need to Learn envelope to the Words I Know envelope. The words in the latter envelope should be used frequently as a source of review lessons in spelling.

Penmanship

No special technique is required in teaching mentally retarded children to write. Good posture and proper placement of paper must be insisted upon until both become a fixed habit. Practice is essential, but what is learned in the penmanship period should be applied in written language. Therefore the test of progress comes when the pupil's ability to write is put to practical use in written assignments. Neatness and legibility are important criteria.

The occurrence of left-handed writing and mirror writing sometimes presents a problem for the teacher. Practice which includes routine copying

¹For detailed discussion see Fernald, Grace M.: *Remedial Techniques in Basic School Subjects*, 1943. McGraw-Hill Book Company.

properly motivated in order to sustain the pupil's interest is advocated by those who have made a study of these traits. The chief principles to be observed include the forward flow of writing from left to right, uniformity of slant, and position of paper. Good teaching practice dictates that a child be permitted to use his dominant hand.¹

A Basic Sight Vocabulary of 220 Words²

The following 220 words make up 50 to 75 per cent of the reading vocabulary used in the elementary grades. This list may prove valuable to the teacher in choosing words for practice in writing, spelling, or reading, supplemented with words found to be of particular importance to her own group.

Conjunctions:

and	as	because	but	if	or
-----	----	---------	-----	----	----

Prepositions:

about	after	at	by	down	for
from	in	into	of	on	over
to	under	upon	with		

Pronouns:

he	her	him	his	I	it
its	me	my	myself	our	she
that	their	them	these	they	this
those	us	we	what	which	who
you	your				

Adverbs:

again	always	around	away	before	far
fast	first	here	how	just	much
never	no	not	now	off	once
only	out	so	soon	then	there
today	together	too	up	very	well
when	where	why	yes		

Adjectives:

a	all	an	any	best	better
big	black	blue	both	brown	clean
cold	eight	every	five	four	full
funny	good	green	hot	kind	light
little	long	many	new	old	one
own	pretty	red	right	round	seven
six	small	some	ten	the	three
two	warm	white	yellow		

Verbs:

am	are	ask	ate	be	been
bring	buy	call	came	can	carry
come	could	cut	did	do	does
done	don't	draw	drink	eat	fall
find	fly	found	gave	get	give
go	goes	going	got	grow	had

¹A source of aid may be found in the *Left-Handed Writing Manual*, by Warren H. Gardner, Rev. Ed., 1945, Interstate Printers and Publishers, Danville, Ill.

²Dolch, E. W., *A Manual for Remedial Reading*, 1939, Garrard Press. Suggestions for teaching the sight vocabulary may be found on pp. 155-157.

has	have	help	hold	hurt	is
jump	keep	know	laugh	let	like
live	look	made	make	may	must
open	pick	play	please	pull	put
ran	read	ride	run	said	saw
say	see	shall	show	sing	sit
sleep	start	stop	take	tell	thank
think	try	use	walk	want	was
wash	went	were	will	wish	work
would	write				

The above list may be obtained in card form at a cost of 50c per set from The Garrard Press, Champaign, Illinois.

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SOCIAL STUDIES AND SCIENCE

In trying to understand the needs of the retarded child in the content fields, we must think in terms of his total adjustment. If we wish to develop a truly democratic situation in our classrooms, every child has a responsibility for making contributions to the group activities. The teacher also has a responsibility to help create situations whereby all the children can be working toward a common goal. This, of course, means that provision must be made for a wide range of abilities and interests. Since it is our purpose to provide for the retarded child, only his part in the group activities will be considered.

Project Method

Setting up the Unit

There are many methods at the teacher's disposal to achieve group cooperation. The laboratory or project method is ideal when planning for a wide range of abilities. After a topic of interest and value to the children has been decided upon, the unit of work should be planned by the teacher and pupils together. It is quite natural for children to ask questions; they should be directed so that the questions are thought-provoking. All questions are recorded and later organized under topic-headings. At first the teacher may have to stimulate interest and create situations so that sufficient questions are asked to start work on the unit. As the children begin to explore the topic, they will have many more questions to add to the original list. It is true that the retarded child will not have a conspicuous place in the organization of the topic. He may be able to contribute some questions, and these should be accepted, if at all possible. Perhaps he can copy the questions as they are written on the board. For whatever contribution he makes, he should receive credit and commendation.

Providing for Differentiated Reading Levels

When the questions have been organized, the group, with the teacher's help, decides how to proceed in obtaining the desired information. The teacher now has a chance to provide for a wide range of abilities in reading. It will be necessary to have on hand a variety of books, at different reading levels, so that each child can participate in the reading activities at his own level. With each child volunteering to be responsible for obtaining certain bits of information, the teacher has

the opportunity to see that each one is working at his proper level. She will have the opportunity to "set the stage" so that the retarded child finds facts, such as names, dates, places, etc., while the brighter children search for answers to questions of cause and effect, why, how, etc. One of the difficulties experienced by many classroom teachers is that of providing instructional materials which have sufficiently mature interest level presented in simple vocabulary that may be read by the older retarded pupil. A source of material which meets this need is listed in the bibliographies.

Related Learning Activities

In addition to reading, there are many other learning activities. For example, the children may wish to make a booklet covering the unit of work. There are many jobs for the retarded child here. He can look for pictures to be used as illustrations. It is possible that he may be able to copy maps, diagrams, charts, or outline pictures. Just how much he can do will depend upon the individual child. If time is spent to teach the retarded child to write neatly, he can help to copy the material that the brighter children have organized. In addition to these activities he may be helpful in making the book cover.

There are many visual and auditory aids to supplement reading experiences. The retarded child can help make posters and models; help to arrange displays; help to arrange radio or phonograph programs. If the teacher is fortunate enough to have a projecting machine at her disposal, she should make careful plans to use it for the unit of work. First, discuss the films or slides so that the children know what to look for. Then show the pictures. If these are slides, ample time can be taken to discuss them. However, this is not true for films. The pictures should be discussed and shown a second time. This method is a good teaching procedure for all children. The slow learner can grasp only a small amount at a time; his reactions are slower, and he forgets easily. Because of these difficulties he should be given just one or two obvious things to look for, and the teacher should take time to be sure that he has seen them.

Summarizing the Unit

At the end of each unit, the children should be taught to summarize and evaluate the information they have gathered. First, have all the questions

been answered? If any remain unanswered, is it possible to find answers to the questions? Second, what is needed to complete the work? Third, is the information properly organized? It is altogether likely that the retarded child will be lost in such discussions unless provision is made for him. Certain outstanding data in the unit's work should be simplified so that he can definitely state what he has learned.

Other Methods of Meeting Individual Needs

If the unit plan seems to be impossible in a particular situation, there are many other ways to meet the needs of the retarded child. He should be provided with reading materials which are easy enough for him to read and comprehend. The bibliography accompanying this section will help the teacher to locate suitable material. The retarded child will need help in finding information in books. It will be necessary to show him how to use the table of contents, index, paragraph headings. Not all retarded children should be expected to have these skills.

The retarded child is able to assimilate information through his ears. He is able to learn from class discussions. He should not be expected to follow involved and complex discussions, but he can retain a few simple ideas. He can participate in class discussions. He should have an opportunity to include his personal experiences in such discussions whenever possible.

Children learn more through actual experiences than from reading about them. This is especially true of retarded children. The following activities provide situations in which each child may participate to the best of his ability.

Field Trips

During the period of preparation for the trip, be sure to simplify its purpose. For a child with a mental age of six or seven years it will be sufficient for him to know where he is going and what specific things he is to look for on the trip. During the trip, take a few minutes to help him find his objectives. When he reports to the class, be satisfied with one or two simple statements. A child with a mental age of eight to eleven years will be able to carry on the same type of activities at a more advanced level.

Bulletin Boards

The retarded child can be expected to bring in material. His contributions should be considered

by the group chairman and used if at all possible. He can help to arrange the articles on the bulletin board.

Illustrations

1. Murals, panels, friezes, drawings—These may be used as activities to make some phases of work more meaningful to the retarded child. Whether he has creative ability or is limited to tracing, coloring, or copying, he should be given an opportunity to make contributions.
2. Models—Encourage the retarded child to do what he can to illustrate units of work. These can be made of various media—soap, clay, papier-mâché, cardboard, wood, cloth, etc.
3. Pictures—The retarded child can locate and mount pictures. He can make books illustrating related activities.
4. Dioramas—The retarded child may be able to make many of the figures used in dioramas.

Collections and Displays

The retarded child can find articles for a collection. He can help in assembling and placing the display. He can help to keep it clean and in order, but should not be expected to do this exclusively. He is not to be considered a maintenance man.

Crafts

Many handcraft activities, such as weaving, sewing, knitting, woodwork, pattern-making, can be used in carrying out classroom activities. For example, in making a colonial diorama, braided rugs, curtains, miniature furniture, and pottery dishes are illustrations of how these crafts may be used.

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HEALTH

This section relates specifically to the health education of the mentally retarded child. It attempts to help the teacher in the following ways:

1. By suggesting in charts a grouping of desirable health habits and health information which can be presented to the mentally retarded child at different age levels.
2. By providing a sample learning unit for the planning of experiences, activities, and functional accomplishments in health education.
3. By providing a recently compiled bibliography of selected health materials, free or inexpensive for the most part.

The reader will note several general features of the materials presented in this section. The first is that the material presented is not related specifically to, nor applicable only to, the mentally retarded child, but can be used effectively with the normal child as well. This is true because the goals of all health teaching are essentially the same for all children although levels of attainment vary. Emphasis is placed almost entirely upon functional outcomes.

Second, no attempt has been made to separate physical health development from mental health development. In our opinion, one cannot "teach" mental health by itself. Instead one must include suggestions and activities, the accomplishment of which will lead to the establishment of good mental

health habits. This idea has been incorporated especially in the various items of the *To Do* and the *To Feel* columns. The effort made by the individual teacher to include the mentally retarded child as an integral part of the group contributes greatly to his mental health development by giving him a feeling of security and a sense of belonging.

The following charts present a grouping of desirable health habits, goals, and related activities arranged for the express purpose of utilizing the now commonly accepted mental age growth concept and the known learning characteristics of the mentally retarded child.

Arrangement of the material into the four columns, *To Do*, *To See*, *To Feel*, and *To Hear*, was done to make a direct approach through the sensory channels most favorable to instruction and learning. Although an over-all unity in the various items of each chart is apparent, no item-by-item correlation has been attempted. The individual using the charts should read down the charts and not across them.

Following the charts will be found, without any additional comment, a summary of a learning or teaching unit developed by use of the proposed charts. It is offered as a suggestion of the type of learning units which may be employed effectively with the normal child and with the mentally retarded child.

Suggested Activities and Outcomes in Health Education for the Mentally Retarded Child

CHARTS I, II, AND III. PRIMARY ACCOMPLISHMENT—Mental Age: 5 to 8 years

CHART I. CLEANLINESS AND PERSONAL CARE—PRIMARY (Read columns down, not across)

Note—Be sure to use the child's individual health cards at the beginning of the term and periodically thereafter to help in understanding the child's health needs.

TO DO	TO SEE	TO FEEL	TO HEAR
1. Wash hands before eating, using individual paper towel at school and own towel at home.	1. Demonstration of brushing teeth correctly.	1. Awareness of personal responsibility for care and appearance.	1. Praise or frequent expression of approval for every attempt no matter how awkward or imperfect.
2. Wash hands after recess.	2. Demonstration of how to wash and dry hands and how to care for washcloth, soap, and towel.	2. Pride in being clean and neat.	2. Catch-phrases and sentences of reminder: e.g., "If you're false to your teeth, they'll be false to you."
3. Wash hands and face night and morning at home.	3. Demonstration of how to comb, brush, and care for hair.	3. Necessity for carrying a readily available handkerchief, and using it.	3. Frequent repeating in unison or alone of rhymes, jingles, verse, etc., relating to cleanliness and personal health habits.
4. Brush teeth twice a day with own toothbrush.	4. Demonstration of how to tie shoelaces.	4. Difference between clean and unclean ("fuzzy") teeth and mouth.	4. Sound pictures, if available, relating to proper health care.
5. Avoid putting pencils, fingers, etc., into mouth, nose, ears, eyes.	5. Demonstration of blowing nose correctly.	5. Dissatisfaction with the feel and odor of soiled underwear.	5. Singing and carrying out motion songs relating to cleanliness.
6. Know how to blow nose when necessary and in manner not objectionable to others; use handkerchief instead of picking at nose.	6. Chart records of daily inspection.	6. Difference between good light and poor light on one's work, in reading especially.	6. Riddles read by others with a chance to solve them or hear them solved out loud.
7. Refrain from spitting on floor, steps, people.	7. Appropriate health posters and commercial displays.	7. Tingle of scalp upon combing and brushing hair well.	7. Stories about children doing healthful things; discussion about story content.
8. Wash hands after visit to the toilet.	8. Height and weight chart with entries every three months.	8. Being liked more by others when clean and neat appearing.	8. Flies must be kept off food.
9. Drink from public fountain without "mouthing" it and squirting on others.	9. Dramatizations of good health behavior, such as "How to Get Ready for School."	9. Stomach-ache or sick-stomach from drinking ice-cold milk or water too fast.	9. Candy in large amounts should not be eaten between meals.
10. Use own napkin and glass at mealtime.	10. Demonstration of how, when taking a bath, to wash face, ears, neck.	10. Tired eyes and fatigue from not getting enough sleep or rest.	10. Shoes should be bought long enough and wide enough.
11. Carry a clean handkerchief at all times.	11. Demonstration of proper way to clean nails.	11. Socks and shoes; too small (short); uncomfortable.	
12. Try to cover coughing and sneezing.	12. Charts of different ways to take a bath: shower, tub, sponge bath.	12. The difference between having to go to the toilet and saying so simply as an excuse for leaving the room.	
13. Make effort to keep hair combed and neat.	13. Demonstration of how to try shoes for sufficient length and width; pictures of how Chinese women used to bind feet until they couldn't walk.	13. Symptoms of a cold or general upset, dizziness, etc.	
14. Wear clean underwear.	14. Demonstration of how pupil's own handkerchiefs can be made from any suitable material.	14. When too cold from insufficient clothing or too warm from too much clothing.	
15. Take a bath with help more than once a week.		15. Aching teeth, a sign of need to see a dentist.	
16. Remove all clothes at night and put on sleeping clothes. Hang up clothes or put neatly on a chair.		16. Aching ears, a sign of need to go to a hearing specialist.	
17. Keep shoes wiped or brushed off daily.			
18. Do not eat anything dropped and picked up.			
19. Do not eat snow, nor food eaten at by others.			

CHART I—Continued

TO DO	TO SEE	TO FEEL	TO HEAR
20. Do not lick with tongue hand-railings, window-panes, desks, etc.		17. Aching eyes, a sign of need to see vision specialist.	
21. Make a booklet of pictures showing good health habits.		18. Clothing or garters harmfully tight.	
22. Ask permission to go to toilet without delaying too long; use toilet tissue as necessary.			
23. Flush toilet after each use.			
24. Avoid wetting or soiling toilet seat.			
25. Hang up own wraps at school; put cap and gloves safely in pockets; fasten arctics together.			
26. Read health riddles and picture stories to others.			

CHART II. RECREATION AND REST—PRIMARY (Read columns down, not across)

TO DO	TO SEE	TO FEEL	TO HEAR
1. Play outdoors whenever possible in sunshine and fresh air.	1. Rosy cheeks and brighter eyes from better circulation.	1. Stimulation of appetite and bodily refreshment from physical exercise.	1. Stories of animal life and nature for relaxation and at bedtime.
2. Arm, leg bending, and breathing exercises for relaxation after study.	2. Drowsiness overtakes a person who has not had enough rest.	2. What it means to hurt people's feelings.	2. Restful music for relaxation.
3. Dress for rainy or stormy weather to avoid illness.	3. How much more easily and satisfyingly a game can be played when everyone listens and follows instructions: cooperation at play.	3. Elation and joy upon winning; heed for fair play and good sportsmanship at all times. Need for self-control when disappointed.	3. Difference between quarrelsome bickering and happy play.
4. Participate in simple table games: parchesi, matching card games, dominoes, jackstraws, etc.	4. Cheating doesn't pay.	4. Increasing confidence in skills of running, jumping, throwing, balance, speed, etc.	4. Repeated directions for different games and how to follow them.
5. Assemble simple picture puzzles and block games for pastime.	5. Pictures of different kinds of sports, equipment, and participating players.	5. Enthusiasm and spirit for group participation; how it makes or mars a game.	5. Different signals employed for room orderliness, drills, games, etc.
6. Construct things with building blocks.	6. Demonstration of correct use of all playground equipment.	6. Friendliness and goodwill toward other children.	
7. Participate in outdoor group games: dodge-ball, soft-ball, three-deep, drop-the-handkerchief, etc.	7. Different temperature points on thermometer best for sleeping, studying, etc.	7. How it hurts to be set-upon roughly by hitting, tripping, pushing, punching, kicking, etc.	
8. Participate in small group games: marbles, jacks, jumping rope, bounce-the-ball, tag, etc.	8. Chart worked out on how to divide time of day to include periods for recreation and rest.		
9. Engage in sand-table activities unsupervised.	9. Printed posters of stickmen illustrating all kinds of activity.		
10. Play at doll-care, doll-parties, etc.	10. Dramatization of how children are different when they have not had enough sleep.		
11. Manipulation of toy cars and airplanes.			
12. Sit on swings, not stand to show off.			

CHART II—Continued

TO DO

TO SEE

TO FEEL

TO HEAR

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|---|---|
| <p>13. Hold to swing ropes with both hands, and swing only moderately high.</p> <p>14. Sit, not stand, walk, or slide belly-bumper, on sliding board.</p> <p>15. Await turn on school play equipment and in cafeteria or drinking fountain lines.</p> <p>16. Sit tall.</p> <p>17. Stand tall.</p> <p>18. Walk, not run, in hallways and on stairs.</p> <p>19. Make picture cut-out posters showing children who have had enough sleep, who are resting after play, who are getting ready for bed, sleeping properly, etc.</p> <p>20. Make own improvement charts of growth in rest and recreation habits.</p> <p>21. Learn to follow instructions closely when playing games.</p> <p>22. Let-up and rest in strenuous activity when tired or overheated.</p> <p>23. Go to bed before nine o'clock and get at least ten hours' sleep.</p> <p>24. Have room darkened and ventilated for sleeping at night.</p> <p>25. Say prayers; bid members of the family a pleasant good night.</p> | <p>11. Sleeping habits of small animals and babies.</p> |
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CHART III. SAFETY CARE AND FOOD HABITS—PRIMARY (Read columns down, not across)

TO DO

TO SEE

TO FEEL

TO HEAR

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| <p>1. Play ball and games where they do not molest others.</p> <p>2. Sled, ride, swim, and skate in safety zones only.</p> <p>3. Keep arms and head inside moving automobile, train, trolley, etc.</p> <p>4. Don't tie sled onto moving object, or hitch rides on bicycles and moving vehicles.</p> <p>5. Carry out fire-drill regulations and orders quickly and quietly.</p> | <p>1. Stop and look <i>both</i> ways before crossing street or highway.</p> <p>2. Safety Council posters displayed monthly.</p> <p>3. Lesson sheets accompanying Safety Council posters.</p> <p>4. Location of fire exits, place to turn in fire alarm.</p> <p>5. How plants die without food, air, or water in right amounts.</p> | <p>1. Hard, icy snowballs hurt and are dangerous; avoid throwing them.</p> <p>2. How to judge whether ice can be trusted or gives with weight.</p> <p>3. Taste and discomfort of green apples or unripe fruit.</p> <p>4. Fear and foolishness at eating something you don't know is safe to eat.</p> <p>5. Stomach has been overworked and needs a rest.</p> <p>6. Food is chewed sufficiently for swallowing.</p> | <p>1. Stop, look, and listen drills.</p> <p>2. School and community fire signals for recognition and remembering.</p> <p>3. Dangerous accidents related to use of electricity; simple explanations of how to avoid.</p> <p>4. Railroad crossing warning signals; their meaning.</p> <p>5. Simple home accidents apt to occur and how to be careful to avoid them.</p> |
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CHART III—Continued

TO DO	TO SEE	TO FEEL	TO HEAR
6. Ride inside car, not on running board or hanging on open sides or back of trucks.	6. Demonstration of how to get out of a smoke-filled room or put out fire on personal clothing.	7. Pleasurable tastes of different kinds of food.	6. Talks about bad eating habits; mouth open, noisy chewing; talking loudly; kicking table and chairs; banging on table; sliding lunch boxes; grabbing other children, etc.
7. Actual group experiences in following traffic rules and regulations on streets and roads.	7. Demonstration of keeping to right on stairways and walking to left on highways.	8. When over-tired one needs rest before eating.	
8. Cover nose with wet handkerchief if caught in smoke-filled room and keep close to floor; roll self in coat, rug, or blanket if clothes catch on fire.	8. Difference between color and size of ripe and unripe food.	9. Difference between healthy, normal appetite at mealtime and poor appetite when sick or after eating between meals.	
9. Do not light bonfires or play near them without adults present.	9. Wall charts of correct foods and food combinations.	10. Thirst calling attention to body's need for water.	
10. Make posters illustrating food habits and safety care.	10. Demonstration on children's play level of arrangement of tableware, silverware, napkin, etc., and proper use of same.	11. The pleasure of conversation at lunch time; the satisfaction of good table manners.	
11. Memorize full name, address, and telephone number.	11. Traffic signal lights; color and meaning of each.		
12. Use blunt scissors for cutting; hand any scissors toward other person handle first.	12. Location of railroad crossing lights.		
13. Handle with care all knives and sharp or pointed instruments.	13. Skull and crossbones (poison label) and its meaning.		
14. Pick up things which might harm people, or report them to proper authority; keep toys and work tools off the floor.	14. Learn to read common safety and warning signs: "Stop," "Go," "Be Careful," "Poison," "Danger, Keep Away," "No Crossing," "No Trespassing," "Keep Off," "Cross Here," "School, Go Slow," "Diphtheria" (etc.), "Thin Ice, Danger," "No Swimming," "No Diving," "Watch Step."		
15. Immediately report to person in charge all cuts and injuries.	15. Demonstration (on hand) of how to cut fingernails round and toenails straight across; use of file and other manicure implements.		
16. Don't play with matches.	16. Demonstration of prevention and care of blisters, simple cuts, and bruises.		
17. Always wash fruit before eating it.	17. Demonstration of good posture, including toes straight ahead and weight on balls of feet.		
18. Only milk, fruit, or other light foods should be eaten between meals.	18. Demonstration of thorough hand lathering, scrubbing, and drying.		
19. Make picture scrapbooks illustrating different kinds of foods: fruits, vegetables, meats, cereals, desserts, etc.			
20. Drink milk or cocoa, rather than tea or coffee, and fresh fruit juices instead of bottled beverages.			

Suggested Activities and Outcomes in Health Education for the Mentally Retarded Child

Charts IV, V, and VI: INTERMEDIATE ACCOMPLISHMENT — Mental Age: 8 to 11 Years

CHART IV. CLEANLINESS AND PERSONAL CARE—IN INTERMEDIATE (Read columns down, not across)

Note—Be sure to use the child's individual health cards at the beginning of the term and periodically thereafter to help in understanding the child's health needs.

TO DO	TO SEE	TO FEEL	TO HEAR
<ol style="list-style-type: none"> 1. Wash hands when necessary without being told. 2. Draw and label pictures of simple tooth structure. 3. Draw and label pictures showing healthy and unhealthy appearing teeth. 4. Make a large diagram of the teeth. 5. Find pictures of different kinds of tooth brushes and arrange in order of value. 6. Keep toothbrush in clean place provided for it; use twice a day without constant supervision. 7. Attempt to write very simple stories or poems about cleanliness and personal care, such as: "I Was Once a Strong Tooth," "I Take Care of My Pearls," etc. 8. Make a health inspection chart and make regular entries. 9. Take over daily inspection of self and assist in inspection of younger children. 10. Make cleanliness booklets: "A Clean Bathroom," "A Clean Bedroom," "Clean Clothes," etc. 11. Compile a picture booklet on "A Clean Baby." 12. Collect pictures of musical instruments with removable mouthpieces, of telephone mouthpieces, etc., stressing that they transmit diseases. 13. Take charge of own bath, subject to inspection; bathe fully more than once a week. 14. Be fully responsible for regular care of hair: brushing, combing, shampooing, getting it cut, etc. 	<ol style="list-style-type: none"> 1. Slides or moving pictures of what germs ("unseen enemies") look like and do. 2. Illustrated chart pictures of simple tooth structure. 3. Illustrations comparing sound teeth with defective teeth. 4. By use of small purse mirror, examine own teeth regularly for tartar, decay, and healthy gum condition. 5. Demonstration of part each kind of tooth plays in mastication of food. 6. Demonstration of what pressure and force it takes to crack nuts or hard candy and how dangerous it would be to do the same with the teeth. 7. Moving pictures or good still pictures of human digestive processes beginning in the mouth. 8. After proper blowing of nose, notice dirt collected in it after work in dusty fields or after train trip. 9. How tears flush out the eyes and thus keep out foreign matter. 10. Demonstration by school doctor or nurse of how to remove a speck of dirt from the eye. 11. Squinting, frowning and other eye-strain symptoms accompanying attempts to work in insufficient light. 12. Demonstration of ways one sits in one's own light; also how light should fall on printed page for ease of reading. 13. Demonstration of how to gargle properly and use mouthwash. 	<ol style="list-style-type: none"> 1. When teeth are loosening and permanent teeth coming in; importance of caring for teeth. 2. Pride in white, well-cared for teeth and an attractive smile. 3. Headache from overstraining eyes at movies, from improper light, reading in bed, etc. 4. What sitting too close to screen in movies feels like. 5. The difference between reading with reflected glare shining into eyes from sun, bright lamp poorly placed, etc. 6. Difficulty and discomfort of breathing when head is not open (adenoids, colds), resulting dryness of mouth. 7. A sore throat can become serious if not cared for. 8. Inconvenience of being without fingernails; necessity for saving and caring for them properly. 9. Pain of hands and face when very cold; dangers of frostbite. 10. Awareness of "B. O." from lack of regular personal care. 11. The difference in walking when toes are pointed straight ahead and when pointing at an angle. 12. The pride and physical well-being of having one's remediable defects corrected. 	<ol style="list-style-type: none"> 1. How germs are spread: spitting, sneezing, coughing, contacts, etc. 2. Where germs lurk: in hands, nails, mouth, objects, etc. 3. Teeth (grinders, cutters, and those that tear) explained by function. 4. Importance of making room for new, permanent teeth at proper time. 5. Importance of immediate dental care for cavities in teeth. 6. How bacteria cause decay; harmful and helpful bacteria. 7. The story of how bristles are prepared for toothbrushes. 8. How nose heats air before it reaches the lungs. 9. How hair and mucous membrane in the nose collect germs and dust to safeguard throat and lungs. 10. Proper use of saliva to digest food. 11. Why particles should be removed from eye with extreme care. 12. Purpose and function of body pores; relationship to body odor and personal care. 13. Importance of eyelashes and eyebrows. 14. Dangers of "boxing" the ears or bursting paper bags or making other loud noises near them.

CHART IV—Continued

TO DO	TO SEE	TO FEEL	TO HEAR
15. Trim own nails and learn way to prevent hang-nails.	14. Why to avoid contact with persons having skin diseases, flu, common colds, or other diseases.		
16. Take responsibility for safe-keeping and proper care of gloves, mittens, and cap in wintertime.	15. Dandruff in hair and on clothing, indicating need of brushing. Oily, stringy hair in need of shampooing.		
17. Stay away from homes under quarantine.	16. Bathtub, washbowl, or basin should be left clean for next person and wet towels hung up properly.		
18. Brush and polish own shoes taking chief responsibility for their appearance and care.			
19. Take responsibility in helping to judge if shoes fit comfortably.			
20. Take responsibility for hanging up clothes at home, including night clothes.			
21. Take some personal responsibility for proper care of clothing.			
22. Wear glasses willingly if necessary and ask parents to have eyes examined regularly by a vision specialist.			
23. Refrain from rubbing eyes and taking unnecessary chances with them.			
24. Keep everything dirty away from the eyes.			
25. Construct riddles.			
26. Make marionettes, shadowgrams, or puppets and use in dramatization of health skits. Point out to younger children why puppet movements are different from ours (muscular development and posture).			

CHART V. RECREATION AND REST—INTERMEDIATE (Read columns down, not across)

TO DO	TO SEE	TO FEEL	TO HEAR
1. Refrain from teasing animals, using slingshots, toy pistols, etc.	1. See pictures, draw posters, and listen to stories about how children sleep in other lands.	1. Increased satisfaction in doing for others, such as showing consideration for timid children, those less skilled in play, etc.	1. Talks about posters on sleep and rest.
2. Make a scrapbook of songs, poems, stories, and pictures about sleep.	2. Posters showing different types of recreation and play.	2. Some personal responsibility for not becoming overheated or overfatigued and for resting when tired.	2. Reasons explained as to why sleep is necessary to restore energy.
3. Make bulletin board display of animals at rest, at work, and at play.	3. Other children demonstrating a new game learned at a party or at camp.	3. Some personal responsibility for balancing day's activities to assure meals at regular hours, adequate outdoor play, and enough sleep.	3. Talks by class members on vacation trips and experiences.
4. Make a picture story of a child's routine at bedtime.	4. Bad posture effects pointed out in pictures and by demonstration.		4. Explanation of bone growth and relationship to personal posture.
5. Make a scrapbook picturing suitable sleeping quarters and sleeping garments. Label to show reasons for most desirable conditions.			5. Reasons why it is unwise to depend upon moving pictures as an only source of relaxation and pleasure.

CHART V—Continued

TO DO	TO SEE	TO FEEL	TO HEAR
6. Prepare own bedroom for sleeping at night; sleep alone if possible.	5. Demonstration of how to relax head, neck, shoulder, arm muscles and rest tired eyes following a period of reading or study.	4. Need for trying to control extreme emotions, such as temper outbursts, weeping spells, or sulking.	6. It is inconsiderate to interfere with the rest hours of others.
7. Take some responsibility for cleaning and orderliness of own bedroom.	6. Pictures of restful and adequate bedroom furnishings.	5. Group expectation and approval of fair play, taking turns, sharing play equipment, etc.	7. Why children need more sleep than adults. How sleep restores energy.
8. Go to bed promptly and willingly; arise in same manner.		6. Courteous respect for group-appointed or properly assigned leaders.	8. Why exercise is more effective when taken out of doors.
9. Make a clock-face showing bedtime, sleeping hours, and time to get up.		7. Warm sunshine and its beneficial effects upon clearing up a cough or cold.	9. How activity strengthens muscles.
10. Wait your turn instead of crowding; permit elders to precede.		8. All strong or safe-appearing things may not really be trusted: i.e., tree branches, rope swings, boards used under feet as temporary crossings, etc.	
11. Take some part in dramatizing a story or poem for the entertainment of others.			
12. Learn to draw and cut posture silhouettes, good and bad for comparison.			
13. Plan a regular time for preparing lessons.			
14. Take some responsibility for maintaining pleasant, orderly, calm atmosphere at lunchtime.			
15. Prepare simple material for construction purposes, such as cutting colored paper strips for weaving, cutting letters of alphabet by folding small squares of paper, etc.			
16. Clean shoes before entering home or room from outdoors.			
17. Make a record of own duties in caring for pets and animals at rest, at work, and at play.			

CHART VI. SAFETY CARE AND FOOD HABITS—INTERMEDIATE (Read columns down, not across)

TO DO	TO SEE	TO FEEL	TO HEAR
1. Take medicine only under direction of an adult, including simple relief for headache or cold.	1. Demonstration of proper handling of pointed shears and uses of different kinds of scissors.	1. A shaky, insecure step-ladder or support.	1. Reasons why fruit should be washed before eating.
2. Develop finer skills in caring for oneself and younger children on playground, along highways, riding bicycles, in traffic, etc.	2. Picture of how to sit properly in a rowboat and canoe.	2. Balance and loss of balance: how quickly and easily one can lose balance.	2. How to extinguish a campfire thoroughly.
3. Go swimming only in approved places and always with somebody else, preferably with an experienced swimmer present (Buddy system).	3. List of safety rules for excursions and hikes.	3. Symptoms of growing faint.	3. The meaning of first aid and a general description of its importance and practice.
	4. Demonstration of how to aid a fainting person and a person with a nose-bleed.	4. In case of simple accident, need for prompt informed care and how to get it.	4. Stories (real or imaginary) of different kinds of accidents; discussion of why they occur and how they can be avoided.
		5. Uncomfortable feeling following overeating or eating of improper foods.	5. Dangers of taking laxatives for abdominal pains.

CHART VI—Continued

TO DO	TO SEE	TO FEEL	TO HEAR
4. Use only sterilized gauze, cotton, etc., in treating cuts, insect bites, etc.	5. The right and wrong ways of getting to various heights to do things: use of stepladder, piling boxes on tables, stepping up on open drawers, etc.	6. How heartbeat is accelerated by exercise and need for rest after exercise.	6. Dangers of swimming too soon after eating and of swimming in strange places.
5. Take responsibility for keeping self and others out of middle of the road and dangerous places.	6. Poison ivy plant and ivy poisoning.	7. Increased responsibility for setting an example of courtesy, good manners, and good habits for the younger children.	7. How poison ivy spreads and the steps necessary to get rid of it.
6. Set personal examples of health and safety conduct.	7. Charts showing basic foods, contributing to building of tissue, to normal growth and to body repair.	8. No injury is too trivial for treatment; prompt action is important.	8. How food serves as fuel for bodily energy.
7. Careful and proper use of matches.	8. Exhibit in colorful pictures of foods not basic to growth but tasteful and desirable for variety.	9. Satisfaction of being known for something of particular interest to others (hobbies, etc.). Appreciation of others' interests and hobbies.	9. Why it is unwise to eat between meals, especially candy, sodas, and other sweet foods.
8. Make a list of rules for building and extinguishing a campfire.	9. Pictures showing animals, plants, persons having had sufficient food and those insufficiently or improperly fed.		10. The process of digestion (simplified).
9. List hazards of special situations: walking on unfamiliar roads, woods, and fields; trespassing on private property; playing or swimming in unfamiliar places; drinking water of questionable source; being caught in an electrical storm, etc. Make posters illustrating such hazards.			11. Reasons for care and cleanliness in preparation of food; importance of keeping food covered, etc.
10. Make proper signals for stopping and turning in traffic when riding a bicycle. Use approved lighting devices after sundown.			12. Dangers of using electrical appliances in the bathroom and around water.
11. Observe all traffic regulations and obey school patrol, crossing street only at marked crossings. Walk facing oncoming traffic.			13. Safety precautions in use of electrical equipment around house and farm.
12. Make a list of things found in the medicine chest at home: compare with a recommended list and with contents of a first-aid kit.			14. Dangers of inflammable fumes from gasoline, gas, etc.
13. Continue to keep height and weight charts, and make occasional check of foods eaten with foods recommended for health.			15. How to make emergency calls to fire company, police, doctor, and hospital.
14. Make booklets of pictures showing "Foods That Build," "Foods That Repair," etc.			
15. Use milk in some form daily.			
16. Take personal responsibility for eating slowly and chewing properly, not washing food down with water or beverage.			

A Specific Learning Unit Providing Work for the Mentally Retarded Child as an Integral Part of the Regular Class

ONE OF OUR WORST ENEMIES—THE FLY

Time:

Six to eight weeks in the fall or in the spring. Two or three periods a week of not less than thirty minutes each.

Group:

Intermediate.

Aims:

1. To teach the life history of the fly.
2. To teach location of breeding places in the fight against flies.
3. To teach the harm that is done by the housefly.
4. To teach safety in use of fly-poisons.
5. To teach the importance of having and using proper and well-fitting screen doors and window screens, and of keeping food covered for protection.

Introduction to Unit:

Informal discussion to determine what is known about flies in general. Encourage everybody to relate some information, observation, or experience with flies. End by organizing a collection campaign of dead flies. They must be brought to school for counting and record-keeping. Let accumulate in large, covered, transparent container until end of unit and campaign. Award simple prizes.

ACTIVITIES — A

COMBINED GROUP

Working as a group, make a comprehensive collection of pictures from old magazines including as many as possible of the following:

1. Full garbage cans with no lids
2. Piggens
3. Barnyard manure piles
4. Outside toilets
5. Trash-filled porches and yards
6. Unscreened open windows and doors
7. Disordered kitchens
8. Broken screens
9. Food left uncovered on tables

10. Rubbish piles at ends of lots
11. Garbage dumps
12. Open sewers or stagnant water

REGULAR GROUP

Mount best selection of pictures on poster paper, with originally worded phrases from reading or class discussion. Make sure that these phrases convey pertinent information in attractive, well-lettered arrangement. Read references on breeding of flies: places, time, frequency of breeding, etc.

MENTALLY RETARDED GROUP

Arrange pictures in any neat order in scrapbook form. Be able to tell what the picture is about and how it relates to the campaign of catching and killing flies, and to the study being made.

ACTIVITIES — B

COMBINED GROUP

General discussion of need for exterminating flies and means of extermination. Have children tell of what precautions are taken against flies at home, in public eating places, in stores, and in butcher shops. Outline the responsibility children can take in precautions and protection against flies.

REGULAR GROUP

1. Construct a brief story or paragraph using these phrases covering means of extermination: fly-traps, fly-drives (collections), fly-paper, fly-poison, fly-swatter, disposal of garbage, garbage collection, etc.
2. Read references and study illustrations of the life stages of a fly. Enlarge drawings and use in making a report to the class.
3. Make a list of new words and simple items of information from reading. From this list of new words, such as *pest*, *enemy*, *pupa*, *disease-carrier*, *poison*, *larva*, etc., make up health sentences or write a simple descriptive poem—"To a Housefly" or "I Am a Pesky Fly."
4. Write letters to the United States Department of Agriculture for bulletins on the fly menace and how to construct fly-traps.
5. Write to Pennsylvania State Department of Health for *Life Story of a Fly*—Bulletin 459. Report upon return correspondence.

MENTALLY RETARDED GROUP

1. Make and arrange a collection of fly-swatters, fly-paper, fly-poison, fly-traps, and fly-spray. Demonstrate and explain how such material has been used, or could be used, in exterminating flies such as those brought in for collection.
2. Bring designated materials for constructing a usable fly-swatter: small piece of fine wire screening; felt from old felt hat or old pillow cover; or small square of worn carpet; old ruler, yardstick or thin, flat, wooden stick for handle, etc.
3. Look at pictures of stages of fly growth while report is being made to the class. Make a simple outline copy of an enlarged picture of a fly, showing especially hair on legs and feet.

ACTIVITIES — C

COMBINED GROUP

Hear about the part a fly's saliva, hair-covered legs and feet, etc., play in spreading disease. Look at a fly under a microscope, if possible, or look at an enlarged picture of a fly.

REGULAR GROUP

Read references on transmission of various diseases by fly contact. Report upon your findings and discuss them. Make a map showing several places a fly may have been before landing on the baby's bottle, on uncovered food, or on a person. Indicate what dirt and disease the fly could have brought with him.

MENTALLY RETARDED GROUP

Listen to above reports and discussion, paying particular attention to maps indicating spread of diseases. Bring to school, in a jar, a small piece of raw meat. Leave uncovered, allowing flies to swarm over it and lay eggs. Cover dish and record how long before eggs hatch and maggots appear. Fill in sentences on work-sheet based upon above information, selecting each answer from several possible answers provided. Report upon number of flies counted (and killed) in home.

ACTIVITIES — D

COMBINED GROUP

See several times and discuss Sound Film No. 7, "The House Fly," Pennsylvania State Department of Health. Summarize and correlate reading, activities, and study with over-all review material presented in film. Propose and initiate some perma-

nent carry-over plan for keeping the classroom rid of flies. Give a final accounting of the fly-collection campaign. Award some recognition for the best collection.

HEALTH AND SAFETY BIBLIOGRAPHY

This bibliography is not an all-inclusive one, but is suggestive of books and materials available for use in the field of health education. It is divided into two parts: (1) a list of textbooks and supplementary reading material; (2) a list of teacher-pupil materials which are for the most part free or inexpensive. We suggest in this connection that local health agencies be consulted because in many instances they have excellent material available.

I. BOOKS

- ANDRESS, J. M., AND OTHERS. *Safe and Healthy Living Series*. Ginn and Co., 1941. Primary and Intermediate
- BARUCH, W. E., AND OTHERS. *Health, Safety, Personal Development Series*. Scott Foresman, 1945. Primary and Intermediate
- BROWNELL, C. L., AND OTHERS. *Health of Our Nation Series*. American Book Co., 1942. Primary and Intermediate
- BURKHARD, W. E., AND OTHERS. *Health-Happiness-Success Series*. Lyons & Carnahan, 1946. Primary and Intermediate
- CHARTERS, W. W., AND OTHERS. *Health Secrets*. Macmillan Co., 1941. Primary and Intermediate
- CHARTERS, W. W., AND OTHERS. *Living Healthfully*. Macmillan, 1941. Primary and Intermediate
- CHENOWETH, J., AND OTHERS. *School Health Problems*. F. S. Crofts, 1942. Teacher Reference
- FISHBEIN, M., AND IRWIN, F. *Health and First-Aid*. Lyons & Carnahan, 1944. Teacher Reference
- FOWLKES, J. G., AND OTHERS. *Healthy Life Series*. John C. Winston, 1938. Primary and Intermediate
- FRISSELL, B. O., AND FRIEBELE, M. L. *Fun at the Playground*. Macmillan Co., 1946. Grade 2
- FRISSELL, B. O., AND FRIEBELE, M. L. *Fun in Swimming*. Macmillan Co., 1946. Grade 3
- GENTLES, H., AND BETTS, G. *Habits for Safety*. Bobbs Merrill, 1937. Intermediate
- IRWIN, L. W., AND OTHERS. *Awake and Away*. Lyons & Carnahan, 1947. Grade 1
- IRWIN, L. W., AND OTHERS. *Growing Day by Day*. Lyons and Carnahan, 1947. Grade 2
- IRWIN, L. W., AND OTHERS. *Keeping Fit for Fun*. Lyons and Carnahan, 1947. Grade 3
- LAMKIN, NINA. *Health Education in Rural Schools and Communities*. A. S. Barnes, 1946. Teacher Reference
- LEAF, MUNRO. *Health Can Be Fun*. Lippincott, 1946. Primary
- LEAF, MUNRO. *Safety Can Be Fun*. Lippincott, 1946. Primary
- LEAF, MUNRO. *Manners Can Be Fun*. Lippincott, 1946. Primary
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- PARKINSON, VIRGINIA. *Pointers for Little People*. Joseph L. Schilling Co., 1946. Primary and Intermediate
- TURNER, C. E., AND OTHERS. *Health-Safety-Growth Series*. D. C. Heath, 1941. Primary and Intermediate
- WILSON, R. S., AND OTHERS. *American Health Series*. Bobbs-Merrill, 1942. Primary and Intermediate
- WOOD, T. D., AND OTHERS. *Many Ways of Living*. Thos. Nelson, 1939. Intermediate

Workbook Series

- The Continental Press:
Health and Safety. Primary
- Follett Publishing Company:
First Steps to Health and Safety. Grade 1
It's Fun to be Healthy. Grade 1
Easy Work and Play in Health. Grade 3
Good Health Habits. Grade 3
The Health Parade. Grade 4
- Webster Publishing Company:
Safety Sam Series. Primary

II. TEACHER-PUPIL MATERIAL

- American Auto Association, Pennsylvania Ave. at 17th St., Washington, D. C. *Safety First Posters* (with lesson plans). Primary and Intermediate levels
- American Can Co., 230 Park Ave., New York 17, N. Y. Bibliography on Nutrition Education
- American Dental Association, 222 E. Superior St., Chicago 11, Ill. Catalog on *Dental Health Education Material*
- American Red Cross, Washington, D. C. *First Aid Textbook*. 1941
- American Seating Co., 901 Broadway, Grand Rapids, Mich. *Posture Charts*. All levels
- Better Vision Institute, 630 Fifth Ave., New York 20, N. Y. Set of 32 Better Vision Booklets *In Care of the Eyes*. Intermediate level
- Bristol Myers Co., New York, N. Y. Charts: (Colored) *Why Do Teeth Ache? A Class Hygiene Record Chart* (with material for four-week unit on clean teeth). *Award Certificate*. Primary and Intermediate levels
- Buffalo Tuberculosis Association, 708 Ellicott St., Buffalo, N. Y. *Health Teaching Activities in Rural Schools* (Bulletin)
- Cincinnati Public Schools, Cincinnati, Ohio. Curriculum Bulletin 125. 1945 Edition (The Intermediate Manual)
- Church and Dwight Co., Inc., 70 Pine Street, New York 5, N. Y. *My Friend Nick*. Primary level. *Your Teeth and Their Care*. Intermediate level
- Evaporated Milk Association. Poster: *Evaporated Milk—What It Is and How It Is Prepared*. Primary and Intermediate levels. Comic Book: *The Adventures of Eva, Pora, and Ted*. Story Booklet: *The White Rat*. Booklet: *Evaporated Milk Around the World*
- General Mills, Inc., Dept. 46, Minneapolis, Minn. *Letters to Tony* (nutrition and health). Primary level. Pamphlet: *The Story of the Cereal Grains*. Intermediate level
- H. J. Heinz Co., Pittsburgh 30, Pennsylvania. *The Story of Food Preservation* (booklet). Nutrition Charts
- Hershey Chocolate Corp., Hershey, Pennsylvania. *Story of Chocolate and Cocoa*. Intermediate level. Chart: *Chocolate and Cocoa*
- International Shoe Co., Red Goose Division, St. Louis, Mo. Booklet: *Shoes Through the Ages*. Primary and Intermediate levels. Booklet: *The Wise Old Owl*

- Kellogg and Co., Battle Creek, Michigan. Food Charts (individual). Inspection Charts. Primary and Intermediate levels. Height and Weight Charts (individual)
- Kolynos Company, New Haven, Conn. Booklet: *The Teeth and Their Care*. Intermediate level
- Lever Bros. Co., 50 Memorial Drive, Cambridge 39, Mass. *Life Buoy Wash Up Campaign*. *Clean Hands Campaign*. *Wash Up Charts*. Primary and Intermediate levels. (Materials for unit work supplied with above)
- Metropolitan Life Insurance Co., School Health Bureau, 1 Madison Avenue, New York 10, N. Y. Booklet: *About Us and Our Friends*. Booklet: *What the Teacher Sees*. Chart: *Light and Shade*. Primary and Intermediate levels. School health materials in various fields furnished to teachers and administrators
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CHAPTER X

Kindergarten

INTRODUCTION

A CHILD ENTERING SCHOOL has had little experience in social living. He needs to gain acceptance as a participating member of a group, to feel secure in his relationship with one or more individuals, and to work out solutions to his problems. Through the wise guidance of the teacher, the informal atmosphere of the kindergarten will provide a natural, easy transition between the home and the school. Superintendent, principal, teacher, and parent cooperation is necessary to happiness in kindergarten. The supplying of suitable rooms and school equipment, including toilet facilities, and the scheduling of time for the use of the playground, are necessary to make the kindergarten a successful, integral part of the school. In Pennsylvania the kindergarten is seen as an important part of a good elementary school.

SCHOOL LAWS OF PENNSYLVANIA

Section 401. The board of school directors in every school district in this Commonwealth . . . may establish, equip, furnish, and maintain the following additional schools or departments for the education and recreation of persons residing in said district and for the proper operation of its schools, which said additional schools or departments, when established, shall be an integral part of the public school system in such school district, and shall be so administered, namely: . . . Kindergartens . . .

The board of school directors of each school district of the first, second, third, and fourth class may establish and maintain kindergartens for children between the ages of four and six years. When established the kindergartens shall be an integral part of the elementary school system of the district.

Regulations of the Department of Public Instruction

1. The children enrolled are counted in the district's report of average daily enrollment for reimbursement purposes.
2. To avoid overcrowding in the kindergarten, the enrollment per session per teacher should not exceed thirty.
3. It is recommended that the school day be three hours. The minimum school day approved for

reimbursement purposes is two and one-half hours. This refers to the children's actual school day of planned activities.

Teacher Qualifications

1. Educational Background

Certification in kindergarten-primary field, with an understanding of children and the basic concepts that underlie a good kindergarten program.

A knowledge of the social-living field, as well as the arts and music, so that she will have a knowledge and an appreciation of our culture.

A willingness to continue her education in further formal group-study, with other teachers, parents, and children.

A knowledge of kinds of equipment and an ability to evaluate their worth in promoting child development, and to make the best use of the materials at hand.

2. Health

A healthy person with the energy it takes to live with children four and five years old.

3. *Voice*

Clear and distinct, but soft and low. Soft in correction as in praise. The teacher's calm, matter-of-fact voice sets the tone of the room.

4. *Community Relationships*

Knowledge and insight of her community and the peoples in it and an ability to get along co-operatively with the community, parents, and fellow-workers.

5. *Appearance*

Children love bright, cheerful colors, and it helps if the teacher's clothes are selected with this in mind. Some children are mimics, especially of adults whom they love. It helps greatly if clothing and shoes are in good taste and neat and clean, and if hair, complexion, teeth, and nails are well cared for. The teacher, however, must be dressed so that she can enjoy having the children use "messy" materials, like paint and clay and water and sand. A smile gives assurance and a laugh will smooth over many difficult situations.

6. *Attitudes*

The friendliness and acceptance of a steady, understanding adult who has a sense of humor is important in helping a child to grow emotionally. Children need to feel wanted, and they judge adults more by what they do than by what they say. The teacher must be humble, careful, and methodical in considering needs of children. We know so little about them. She must begin by trying to be honest about her own beliefs, biases, attitudes, and general limitations and avoid making the child a victim of her own beliefs. She should force herself to allow a child to develop at his own rate, and not in accordance with some set standard of her own convictions. Since body eliminations are not uniformly timed for all five-year-olds, children should not be forced to conform to a rigid schedule. Feeding is not a uniform process; children should not be made unhappy by attempts to have them conform to uniform feeding regulations. They must be permitted and helped to develop in all things at their own rate. Expecting more than a child can do can be devastating for that child, but not expecting enough of him can retard his growth and help him to lose his incentive. It is important not to make the child feel fearful, inadequate, or rejected because of failure. The teacher can help children to control emotional reactions which are often violent at this age.

The child is not capable of making all his own

decisions, but needs guidance and assistance in meeting his problems. Perhaps the greatest help is sympathetic reassurance that will allay a child's fear and enable him to meet the situation more adequately. The teacher's attitude toward all children in all situations must be one of gentleness, sympathetic understanding, and patient tolerance.

CHARACTERISTICS AND NEEDS OF FIVE-YEAR-OLDS

Every child needs to be liked and accepted by parents and teachers and needs to feel himself a worth-while person with self-confidence. He needs experience in succeeding at his own level of ability and to have that success respected. He needs to be able to find his place in a small group, to be a contributing member, and to be accepted by that group. If his early childhood years have been difficult, he will need more help.

The characteristics of five-year-olds should be considered in planning kindergarten programs. Although every five-year-old is a distinct personality with five years of experience and background that make him different from others in the kindergarten, there are some general characteristics of "fives" that apply to many children at this age level.

General Characteristics

1. They play in groups of two to four children.
2. They have special friends, and this friendship often means the temporary exclusion of other children from their group.
3. They display competencies such as the ability
To learn to put on their wraps
To get toys and help put them away
To use their own ideas in play
4. They make impulsive responses to many situations, exhibit quick emotional changes toward children and adults.
5. They show their aggressive feelings with fists as well as with words.
6. They love obvious jokes, such as bringing teacher a beautifully wrapped empty box for April Fool's day.
7. They have a great curiosity and their interests extend beyond their own homes.
8. They live in a here-and-now world where only their own personal past life has much meaning for them.

9. They enjoy talking and use speech in their dramatic play to clarify ideas.
10. They enjoy silly language with such phrases as "Boops Boops a Daisie," "You goofer."
11. They have a great deal of energy and can profitably engage in much gross motor activity, but they lack fine muscular coordination.

Emotional Development

Emotional development may be viewed as an active learning process akin to motor and language development. We need to provide an environment which will assist children to advance toward emotional maturity by

1. Having secure and affectional relations with other people.
2. Learning that growth in independence is interesting and satisfying.
3. Developing the ability to feel deeply, to feel anger when justified, and to enjoy fun with others.
4. Being able to play alone with satisfaction as well as with others.
5. Solving emotional problems which may have developed.
6. Accepting frustrations due to the lack of language facility or physical skill.
7. Establishing desirable attitudes toward everyday living.
8. Growing in appreciation and understanding of the world about them.

Four-Year-Olds

A word of warning needs to be included concerning four-year-olds. If they are in school a program needs to be planned for them. They are not as steady as five-year-olds, they are not ready for as much organization, they need more free activity and out-of-door play. The admittance of four-year-olds to kindergarten also requires planning for their needs in terms of a two-year kindergarten program.

ORIENTATION PROGRAM

Although each school may have definite entrance policies, it is essential to have some special plans for the enrollment of the kindergarten children. Getting the right start and feeling at home can

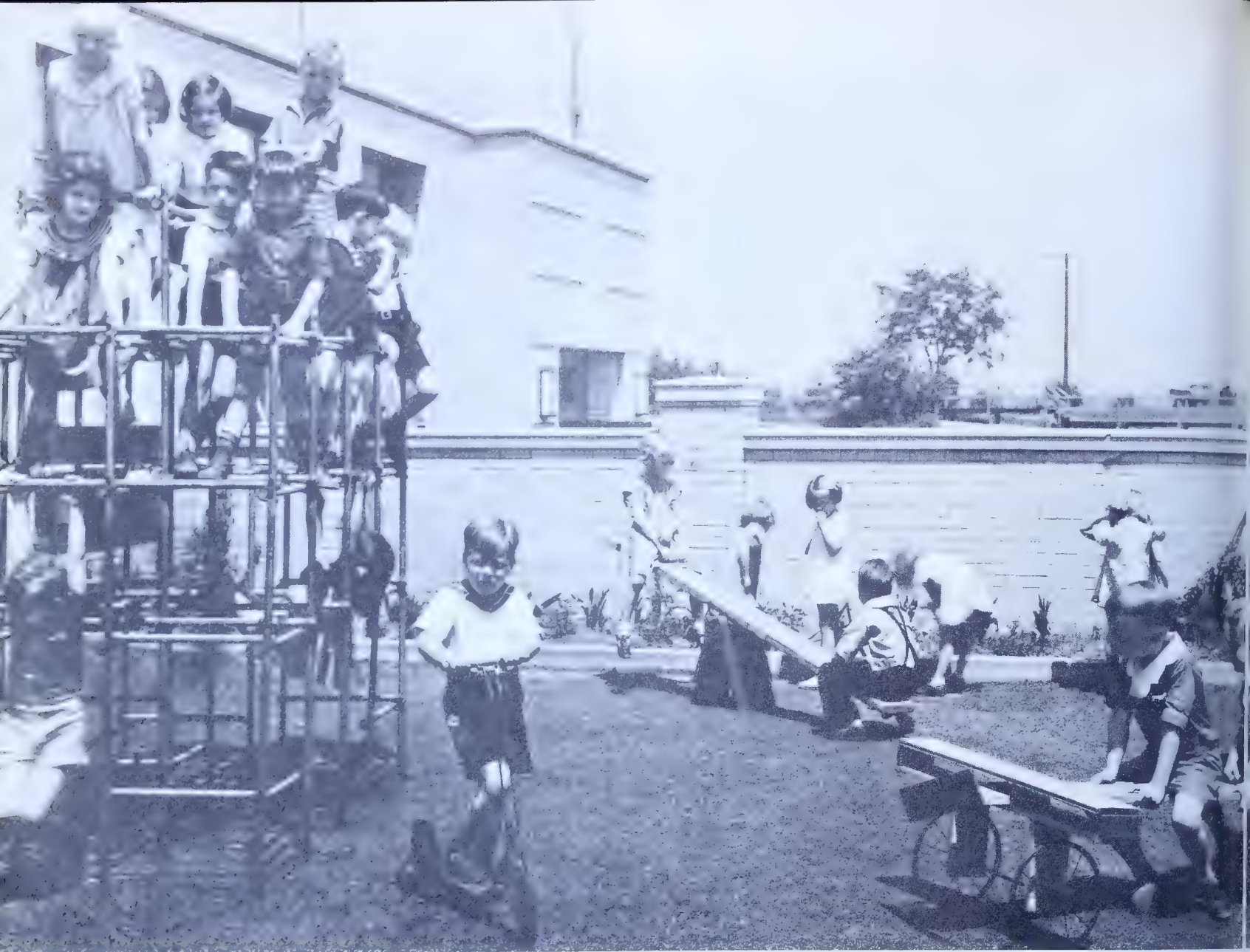
affect a child's attitude toward school for a long period of time.

Purposes

1. To help children to feel more secure and happy in making the adjustment to the school situation that is new and strange.
2. To help children to become acquainted with the other children and the adults.
3. To help children become acquainted with the physical setup of the school.

Home and School Relationships

1. Meetings between parents, teachers, and the child help to establish cooperative relationships between home and school. These may be carried out in various ways.
 - a. Spring visits before the next fall admission period, with the children coming to visit with parents in small groups, help to relieve later tension and avoid some first-day difficulties. If children wish, two or three at a time can attend several sessions without their parents. As the children explore the room and the equipment and participate in the group activity, the parent and teacher may talk.
 - b. An alternate plan is to have children and parents come in small groups during the fall admission. The time could be extended over any period necessary to enroll all beginning children.
 - c. In many cases it might be wise to have the children visit in both the spring and the fall.
2. As the parent and teacher confer, the teacher can get the information she needs. She can also give parents any information that will be helpful to establish confidence in kindergarten and get their cooperation. For example, the teacher needs
 - a. To explain the schedule
 - b. To explain or learn the plans for transportation
 - c. To assure parents that children will be under constant supervision
 - d. To encourage them to talk with her about their children
 - e. To encourage parents to visit school at any time
 Parents and teachers become better ac-



Outdoor Play Is Important

quainted with this procedure, build up mutual respect, and so work together better for the welfare of the children.

3. To help children feel at ease and to become acquainted with their environment

- a. The teacher should greet each one personally and informally by using his name and making some comment to make him feel welcome.
- b. Children should meet others in the group casually and informally. For example, a teacher might suggest, "John, would you take Sam for a ride in the boat or on the seesaw?"
- c. Children need time and freedom to explore their own room in order to discover all of the materials and equipment available. Familiar materials, such as housekeeping toys, blocks, crayons and paper, and books, should be available. The first days for the children will need little supervision in their use.

- d. The teacher will show them where to put their wraps and where the toilet is.
- e. They will need to locate drinking fountains and learn how to go from their room to the playground. The standards for behavior in the halls will vary somewhat in different schools but in all cases there must be consideration for other people in the school.
- f. The children will want to explore the playground and the surrounding grounds. If there is a special section for them they need to know what its limits are.
- g. The children may visit the building custodian and learn where he works and how he keeps the school warm.
- h. They will become acquainted with the school patrols and the bus drivers early in the year; the teacher can help them to establish a respectful and trusting relationship.
- i. They should visit the principal and find she is a friendly person.

- j. They should know the nurse and the other personnel of the school.
 - k. They must learn any school rules to which they will be subjected. They need to know what a fire drill is and practice one before they join the whole school in a regular fire drill.
4. As the occasions and needs arise, children will become acquainted with and understand their relationships to other members of the school setup. These contacts may be developed and extended gradually. The children should soon feel that the school is theirs and that they are an integral part of it.

SCHEDULES

Young children are frequently thwarted by the necessity of conforming to family routines or school routines which may be quite different from their own natural rhythms. However, they need an orderly scheduling (or orderliness) in their lives to give them security and thus freedom to work out their ideas within certain limitations. A great deal of physical restlessness may mean more time or space is needed for large muscle activity or more energetic work like hammering at the workbench or working hard at clay. Tension is quickly roused when too fine muscle coordination is demanded, such as too long at cutting or crayoning. Too frequent and too long assembly programs, evening programs, art exhibits, and operettas, add tension and can cause problems in behavior. Children are doers, and there is little value in being spectators or listeners at lengthy movies or radio programs.

A great deal of time is needed for free play and activities offering opportunities for experiences in social living and the development of cooperation. Many kinds of unrelated make-believe may be taking place at the same time. Playing and constructing boats, docks, trains, stations, cars, garages, airplanes, airports, roads, or farms allow individuals or groups to interpret their ideas and feelings about the activities in which they engage. The housekeeping unit creates a desire to dramatize home life from which related activity may grow. Dramatic play reflects the group's surroundings, the time of the year, and world conditions. In time of war, it will very often include situations which the child connects with fighting. In the wintertime it may center around a snowplow or in summer around a tractor. As they relive their everyday experiences

in play, their ideas become clearer and they gain a better understanding of their world.

It is desirable for the kindergarten teacher to think in terms of large blocks of time. Schedules have certain basic similarities, but differ in individual situations and will vary according to the length of the school day, the weather, the physical setup, the day's plans, and the needs of the group. The schedule should be flexible, allowing for emergency and growth, alternating quiet and active periods. As interest and enjoyment increase more and more time will be needed for music and language arts. Early in the year longer periods of time will be required for lunch and rest, but as skills develop and good habits form, less and less time will be needed. The kindergarten group will spend a good deal of time on outdoor activities in clement weather.

The following three blocks of time are suggested as a skeleton schedule within which there can be a great deal of flexibility.

First block: Greetings. Inspections. Activities, including painting, clay work, dramatic play, woodwork, housekeeping play, science, social studies, block building, experimentation with musical instruments, incidental story telling, and looking at books.

Second block: Group stories, conversation, and music. Toileting, lunch, and rest. Sometimes a story before lunch and music after a rest help to balance the program.

Third block: Activities outdoors, corresponding to those listed for the first hour, including the use of large physical apparatus, dirt and mud play, and more vigorous running and oral expression.

The first block may be used for outdoor activities instead of the third block or both blocks may be used profitably outdoors.

ROUTINES

Eating

In order to balance the day's program and to promote healthful living, time must be allotted in the schedule for a lunch period and rest. The mid-session lunch may consist of fruit juice or milk with crackers, depending on the needs of each particular group. If a noon luncheon is served it should be a hot meal and be the child's main meal of the day. At lunch time, standards should not be so strict that there is any interference in the enjoyment of eating.

The teacher should sit down and eat with her children, setting standards for table manners as well as entering into the conversation. Taking lunch outside or on a "boat" or "train" built by the children also adds variety and interest.

Birthdays offer opportunities for celebrations. The most successful parties are those planned and carried through by the children, from the decorations to the refreshments and the cleaning up. The children might occasionally make applesauce or bake cookies for the party, making the celebration wholly theirs.

Resting

The rest period is needed, but the teacher should study to ascertain whether or not it is real relaxation and rest, or enforced quiet that may increase tension. The use of cots affords better rest but rugs on the floor are satisfactory, if drafts and reasonable cleanliness are considered. Perhaps a quiet story, or quiet music, or sitting-down activities for short periods, may serve the purpose.

Toileting

Toilet facilities should be a part of the kindergarten setup but many times the toilets used by older children are the only ones available. In either case, children should feel free to go to the toilet whenever they wish without asking permission. At the regular toileting time before the lunch period the teacher is with the group to give suggestions and help when needed. During this period some children can be setting the table, some cleaning up, and some playing quietly, until all are ready.

THE PROGRAM OF STUDIES

Art

Art activities such as easel painting, finger painting, and clay modeling supply varied media with which children can experiment and put in form their ideas and their feelings. Art, in its broadest sense, is part of many kindergarten experiences. Block building has form and design; the doll corner has both color and arrangement, and has varied textiles to manipulate and use. Woodwork, from nailing two pieces of wood together for an airplane, to the more intricate but rough shaping of a product, can be art. Energy and strength of feeling can go into the process and the product is often viewed with much pride.

Rich and varied experiences in the social studies area may stimulate ideas and be reflected in art work, but art, if creative, may cover all personal experiences of children. Tracing or drawing around forms or filling them in with crayon has no place in the development of art. A variety of materials should be available throughout the year and their use should be encouraged by the teacher. Children need to know where materials are kept and how to care for them. This job should be made as easy as possible without too high standards that might interfere with the use of the materials. Too much time should not be taken from the work itself for the preparation and cleaning up. Teacher and children working together on these jobs usually helps to build up a better attitude toward orderliness and independence.

The teacher's job is one more of appreciation than of teaching skills. Skills will be discovered by five-year-olds as they work. If, for example, a child is concerned about having his tree look like a real tree, he can look at a real tree rather than imitate an adult's idea of one. He may paint his people larger than his house because to him they are more important. We can listen and sometimes learn a great deal about children from their paintings. It is wiser not to question them about their work, for many times they cannot put the feeling or idea into words and we may force them to paint the realistic and interfere with the more abstract work. Children show their art work to each other informally and often criticize, but when the whole group does it during a "showing" period, there is the danger that, without intention, a stereotyped product is encouraged.

Undoubtedly the most important value in art work is the process and what happens to a child as he works. While care should be taken to help him within the obvious limitations that must be set, and while paint must be limited to the paper or the object being painted, it *will* drip. Some routines of "taking care" should be taught but too much emphasis on the mechanics can center a child's interests there instead of on his work. Whether a child has clarified an idea or an emotional feeling about an experience, or just mixed paint on paper, his work will mean a great deal to him. He has created it, it belongs to him, and he has a right to decide whether it remains at school to be put on the bulletin board or is taken home for mother's admiration. Children may enjoy sharing and arranging a bulletin board and if so, the work of all the children should be displayed at some time.

The teacher's biggest job is to encourage children so that each one has confidence in himself and his ability. Art experiences can play a large part in wholesome mental hygiene.

PAINT

Paint gives deeper, truer color than crayons, and large brushes and large sheets of paper encourage freer, bolder work. Painting can be done on easels or on the floor. Paper can also be fastened on the wall or blackboard with scotch tape or clipped to heavy cardboard to make room for more children to paint.

PAPER

Paper in large sheets offers the opportunity for two or three children of this age to paint together and sometimes plan together as they work. Large sheets of brown wrapping paper cut from a roll lend themselves well to the production of a group frieze. Newspapers can be used in place of unprinted news or easel paper at times, with the newsprint adding an extra interest instead of detracting. Five-year-olds use a great deal of paper.

FINGER PAINT

Finger paint may serve the purposes of giving a child an added sensory experience, helping him to overcome his fear of getting his hands "dirty," and giving him another medium with which to express rhythm and form. A recipe for homemade finger paint is given in the Appendix.

CLAY

Clay, either from the store or, if available, from the neighboring soil, is a product to manipulate and children should become acquainted with its possibilities. Clay with a water base has more possibilities than plasticene for it can be worked to different consistencies by adding water. Dough may be used as a substitute. Give children big lumps of clay so they will be encouraged to work hard with it. This also enables them to make larger products.

COLLAGE

Collage, a collection of odds and ends, is used by children in amazing ways. Give them paper, scissors, and paste, and an odd assortment of such things as absorbent cotton, paper clips, button molds, sawdust, shavings, sand, bits of cloth in varied colors and textiles, rope, string, leaves, twigs, grass—in fact, almost any waste materials available. The results are surprising, with absorbent cotton used for clouds and shavings used for curls around

button-mold faces. The teacher does not need to contribute ideas, the children have them.

Health and Safety

The health and safety of young children should be considered throughout the kindergarten program. During the school year the teacher and principal should keep a record of the corrective health measures for each child discovered in the preschool health examinations. While the teacher observes the health of the children throughout the kindergarten session, she should make particular effort to look for children who are fatigued, who have flushed faces, nasal drips, rashes, or other signs of poor health. Such children should be referred to the school nurse or arrangements should be made for sending them home. There should not be an undue emphasis on cleanliness which would prevent children from enjoying such activities as finger painting, playing with clay, and mixing sand. Many aspects of the kindergarten curriculum can be the means of promoting child health, such as:

1. Playing outside in the sunshine and fresh air
2. Putting waste materials in wastebasket
3. Washing hands before eating
4. Leaving the washbowl clean
5. Learning to flush the toilet after using
6. Participating in a program balanced with alternating quiet and active periods
7. Learning to use paper handkerchiefs when necessary
8. Playing in a well-ventilated room
9. Serving milk early in the morning if the children come to school without breakfast. In some communities the health of young children will be improved by a hot meal at noon in school.
10. Keeping things away from mouth that do not belong there

Throughout the entire day the teacher will be helping the children to acquire some ideas regarding safety:

1. Through the careful use of blunt scissors
2. Through discarding dangerous materials, such as bits of broken glass
3. By following the directions of patrol boys, and learning how these boys and girls determine when it is safe to cross the street
4. By boarding and leaving buses carefully

When taking any excursions away from the school, the teacher will be responsible for the or-

ganization that is necessary to protect children while on trips.

Literature and Language

Many opportunities for enriching experiences in literature and language can be found in the daily kindergarten program. Discussions on trips, planning for room activities, and science experiences—all promote language development.

In the time suggested for literature children should have a choice in deciding whether they want to listen to stories read or told by the teacher, or look at books by themselves, or engage in quiet play. Books can be used in many ways throughout the day's program, as—(1) the teacher and a few children use a book as a source of information; (2) children may enjoy spending some time alone looking at a book; (3) two or three children like to look at books together, talking to each other about the pictures or telling each other parts of the story; (4) the teacher may read a book to a small group of children rather than to the entire class and so interest some children who do not care for stories in a large group; (5) names of children may be substituted for names in the book; (6) children may enjoy asking questions or making a comment in the middle of a story, repeating favorite phrases, telling what happened next or talking about personal experiences.

Often children make up stories and poems of their own in their free play, at the lunch table, and on arrival at school. The following story is typical of many others. Here three children are playing in a play house.

Here's dolly's dress

Here's dolly's shoes

Here's dolly's hat

And now she is ready to go in the coach.

The teacher may write some of the stories in a notebook and some child drawings may be added if they are spontaneous and suitable. Later she may read these stories to small groups. This procedure helps children to see that they too make up stories, but they should not be expected to read them.

Five-year-olds enjoy word play. If one child makes up an interesting phrase while playing, others in the group may start repeating it. The following example is typical. Two children looked at pictures of the zoo. "Oh, look at the dumb funny giraffe." This was repeated many times by other children during a half-hour interval. Silly and meaningless words are often repeated with gales

of laughter. The teacher should be able to enjoy this word play and view it as experimentation with language by five-year-olds. She can often enrich such language experiences with material like the Edward Lear "Nonsense ABC's."

Children need enjoyable experiences with a variety of suitable books, stories, and poems that provide pleasure, nonsense, and information. Often these books are so interesting to the children that they ask to have them reread during the same day. Five-year-olds are particularly interested in "here and now" stories in which children have experiences similar to their own. Children keenly enjoy a poem such as Dorothy Aldis' "Hiding," because it is based on familiar experiences.

The following is a list of kindergarten books used by some Pennsylvania teachers. These books have been selected to meet the varying needs of young children. Some "fives" may have had rich experiences with literature, others may have had almost no contacts with books.

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Because of the varied interests and experiences of children of kindergarten age, this list can be only suggestive of the many good books available. Teachers should develop their own lists, noting particularly those best loved by the children.

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Music

Music is such an innate part of a child that it is enjoyed all of the day and cannot be rigidly scheduled for a certain time. People's voices, cars, trucks, and motorcycles in the street, toys rattling, the sound of leaves blowing in the trees, and airplanes offer constant stimulation and opportunities for discrimination in listening. Horses' hoofs clopping, running, jumping, the seesaw offer rhythm experiences as well as sound. Experimenting by themselves with musical instruments, such as the piano, drums, bells, tambourines, is a most valuable and joyful experience. Children listen for different qualities of sounds and work out rhythms for themselves with real satisfaction.

SINGING

Many of the sounds children make are musical and have rhythm in them. In their dramatic play they make sounds constantly of animals, airplanes, engines, etc., and like to chant as they talk or sing simple songs with or without the teacher. Songs about their everyday activities, such as running and swinging, about their environment, such as fire engines or animals or boats, intrigue them. They like Mother Goose songs, folk songs, humorous songs, and are ready for a rich, varied background. By adhering to the standards of "good" music, we do not mean to exclude popular music of the day which children hear and enjoy singing, such as "Oh, What a Beautiful Morning."

To get children's interest early in the year, have them learn for group singing, songs sung by parents at home. Five-year-olds sing heartily in groups and care should be taken not to stress "soft, gentle" voices to too great an extent. Probably the best way to keep their voices from becoming harsh and shrill is for the teacher herself to sing softly. Studies have shown that children's voices are comparatively low in pitch and that many children sing with more ease in a low range. There are, of course, individual differences so that the best procedure seems to be to listen to children's voices and help them to sing accordingly. It is not skill that should be emphasized at this age, but much experimentation and enjoyment. A child cannot learn to sing without singing. Children should not be grouped by ability. The content of the song is as important as the melody. Syllables have no place in kindergarten.

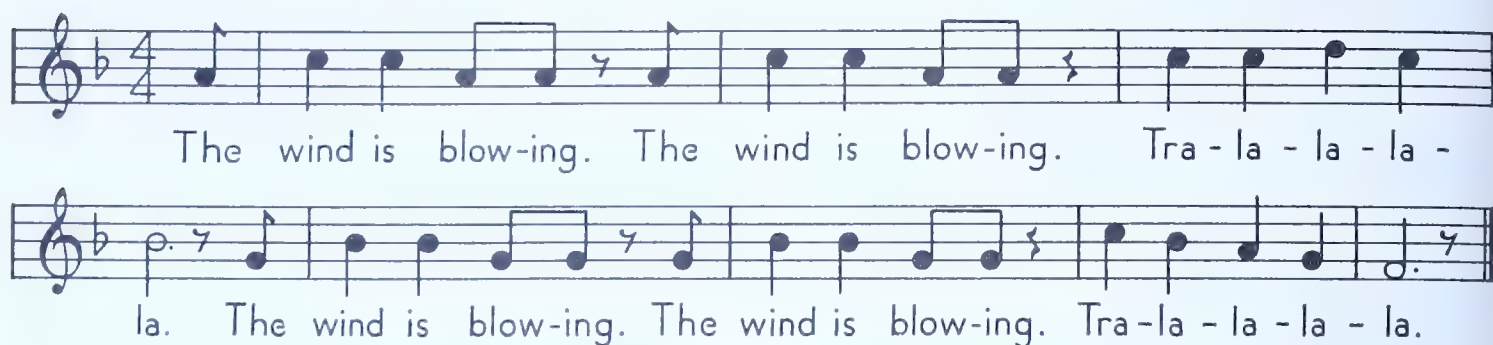
ORIGINAL SONGS

If a teacher listens, she may hear many original songs and occasionally be able to record the melody and then play it back for the children. These spontaneous songs are often favorites among the children, probably because they are so much a part of them. Occasionally, too, such a melody may lend itself to a rhythmic response. The following song was recorded as a group of five-year-olds were on their way to the store to buy materials for dyeing Easter eggs. Later, the teacher played it and the children sang. When they started dancing, the teacher added an accompaniment for rhythms.

RHYTHMS

Body movement is rhythmical and sometimes a rhythmic pattern initiated by the children can be picked up and emphasized by an adult. A tom-tom can be used on the playground or indoors, and lends itself unusually well to accompanying

"NANCY'S SONG" *



* Recorded by Marjorie Hofmeister

rhythms. Children play the tom-tom for each other at times. The teacher can also set the rhythm herself with a tom-tom, piano, or victrola. It is important to let the children respond in their own ways and not to interfere with their ideas by directing them. For example, children may appropriately dramatize tigers on all fours to music intended for slow, quiet walking. One child said he was "an old man walking with a cane" to music written with heavy chords and entitled "The Elephant." Children will think of a greater variety of responses than adults will, given the time, the freedom, and the encouragement. Learning to use their bodies in various ways and being free to use their own ideas are important aims during a rhythm period.

INSTRUMENTS

Instruments available for the children should have good tonal quality and offer an opportunity for experimentation with a variety of tones. Small groups of five-year-olds sometimes work together on musical instruments, listening, experimenting, until the results are satisfying to them, and even pleasant to adults. When the whole group is organized into a rhythm band, there is danger of having only a din of noise as a result. When one considers how spontaneous and enthusiastic five-year-olds are, one can better understand the strain of having to follow a leader for a rhythm band and to wait for turns. There tends to be a stereotyped performance with more following of directions than experimentation with sound and listening to the results. Toward the end of the year, there may be more organization.

THE RECORD PLAYER

A record player carefully used can be a great asset in kindergarten for enriching the musical backgrounds of the children. It is possible to hear excerpts from good musical selections repeated as

often as children wish. It can be used for rhythms although it is usually not as good as piano accompaniment because it cannot be adjusted as easily to the rhythmic responses of children. Small groups listen attentively and seem to enjoy it. Records need to be checked for clarity and tone as well as suitability.

MUSICAL GAMES

The traditional musical games have an occasional place. Many times a few children play fragments of a game without following rules strictly. Many times they make up their own rhymes to add to the familiar ones. They like to have a teacher play these games with them sometimes, but children should be allowed to join or leave the game of their own free will.

PLANNED MUSIC PERIODS

In a music period it seems wise to vary the type of music so that the more active bodily or rhythmic responses can alternate with singing or listening. If there is not room for all children when they are responding rhythmically, they can take turns, or half the group can play in another part of the room and alternate. Comments by the teacher may interfere with spontaneous and creative responses or possibly bring out comparisons which might make the children self-conscious. A teacher needs to be aware of both the inhibited child and of the show-off and appreciate the responses of all the children.

Our objectives in music are to help the children to feel free to use their voices in singing and their bodies in rhythm and, thus, be able to express feelings and ideas musically. As they do this, they are gaining skills and enriching their background so that music can come to mean more to them and be a source of enjoyment now and all of their lives.

Some books found useful by kindergarten teachers throughout the State:

COLEMAN AND THORN. *Another Singing Time*. John Day
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SKILLS

The primary purpose of kindergarten is the provision of a group life which furthers the development of young children, not merely direct preparation for the other elementary grades. The daily activities in an enriched kindergarten curriculum introduce children to concepts in social living through trips in their community, science information, the use of arithmetical ideas, meaningful experiences with print, talking freely about their experiences, planning together, and solving problems.

While kindergarten is not the time for drill on the skills, the children are becoming acquainted with functional concepts in arithmetic and reading which show them the use of skills and create a need for learning them.

Arithmetic

When children buy a pumpkin for Halloween at the grocery store, they are learning to use terms such as "heavy" and "light," "large" and "small" for a purpose and are developing some ideas on the use of money. Words of comparison such as "longer" and "shorter" are frequently used when children build with blocks. Concepts of size and shape and quantity are experienced in block building and woodwork. An activity such as buying eggs to dye at Eastertime helps children become familiar with terms such as "one dozen." The work involved in making desserts and cookies introduces children to concepts such as one-half, one-third, one-fourth, and the idea of measuring. Sharing candy, fruit, or toys calls for division that has meaning and may include accurate number concepts.

Reading Readiness

1. Through kindergarten experiences children are learning
 - a. That books are a source of enjoyment

- b. That books can give information
 - c. To take care of books
 - d. Common left to right usage
 - e. To use pictures as cues in telling what the story says
 - f. That the print tells them the story
 - g. To engage in "pretend reading" a book
 - h. The sequence of events
 - i. The free use of language
2. Use of names on lockers and articles which children make gives an idea of the importance of writing.
3. Activities help children to see the functional use of reading even though the teacher is doing the actual reading, such as
 - a. The use of recipes in cooking
 - b. Directions in planting garden seeds
4. In all program planning the present needs of five-year-olds should be considered rather than preparatory work for grade one. Readiness workbooks tend to limit the possibilities for natural expression and learning.

STUDIES CONCERNED WITH SOCIAL LIVING

In addition to the incidental opportunities for the development of cooperation and social living in the daily programs, the kindergarten program should provide social studies and science experiences which are based on present-day life in the community. Five-year-olds need to explore and find out about people and things not only in their homes but also in the school and surrounding locality.

Values in Class Trips

After the children have been oriented to group living in the kindergarten, trips to places in the school neighborhood and the local community will be necessary to avoid a type of social studies that consists of mere verbalization. These trips help children

1. To extend their world beyond their own homes
2. To develop an understanding of how others help us
3. To receive information and stimulate them to ask questions

4. To plan and solve problems together and to promote group living

School personnel, parents, and others in the community should view trips as valuable learning experiences rather than mere diversion. A survey of the vicinity by the teacher will reveal people and places which offer social and informational learnings for five-year-olds. Types of excursions that have enriched children's living in Pennsylvania kindergartens are: visits to stores, farms, bakeries, homes under construction, parks, fire houses, post offices, railroad stations, airports, and short train trips.

Points for Consideration in Selecting a Trip

1. Its purpose and value in furthering understanding and providing information for five-year-olds in a particular community
2. Previous experiences of the children
3. Travel time or walking distance
4. Attitudes of workers in locality toward having the children visit

Experiences told by children, pictures, and toys can create interest before a trip. In one Pennsylvania kindergarten, interest in a trip to an airport was created as:

Children observed the mail planes flying over their school

A toy airplane was brought to school

Airplane pictures were brought in by the children

Newspaper articles were read by the teacher

Airmail letters were brought to kindergarten by a child

Preliminary planning for trips with the children can often be done in small groups rather than in a group of thirty. The following questions were asked before taking the above trip:

What kind of fuel do they use in a plane?

Do you have to have a plane license?

How do pilots know what towns they are flying over?

Why do airports have a wind sock and where do they get the name?

The vocabulary of these children was enlarged by words such as hangar, cockpit, pilot, co-pilot, stewardess, hostess, navigator, propeller, radio, goggles, ground crew, runway signals, engine, rudder, baggage, express, towers, passenger, scales, airport, fuselage, parachute, airport, mechanics, helmet.

The Teacher's Part in Preparing for the Trip

The teacher should visit the place before the children take a trip and talk with the farmer, storekeeper, or other worker to find out what the children may see and to discuss the possible information learnings which the teacher has planned. If the farmer knows that the children want to help gather eggs, see a harness for a horse, watch the pigs being fed, and see the ducks swim, he can plan for such observation and activity. The children should have a chance to look and ask questions instead of hearing a lecture. Many schools find it desirable to invite mothers to assist on trips. Both the mothers who accompany the children and the teacher should know the purposes and learning possibilities in the trip. Policemen, firemen, postmen, farmers, storekeepers, and train engineers should be seen as people who help us rather than as glamorized figures. Children should learn that these people live in homes, have families, and enjoy recreation.

What May Happen After a Trip

Children frequently relive trips in their dramatic play. The teacher may have pictures, toys, and odds and ends of material that suggest ideas. The entire group does not have to relive a trip and children do not necessarily have to play about every excursion they take. Many different play interests may be found in a room at one time. If the children have visited a farm, some of them may be playing with wooden animals and using blocks to build barns and pens for them. Some other children might be drawing or painting pictures about farms, while others might be making pictures that show nothing about farms. Some children might be playing in the playhouse and others may be building a road in the sand or constructing a garage with blocks. In reliving a trip there is no reason for having children construct a miniature farm merely because they visited one. It is possible to play farm without such elaborate construction. Such play may be as purposeful to the child as work is to the adult. The children may want some stories or songs related to the event, but there is no need for everything in the program to center about the trip. The teacher should collect this material ahead of time, but it should not be forced on the children so that they may respond with, "Do we have to sing about farms today?"

Many times children will ask questions that will indicate the value of repeating an experience. Some-

times one trip will lead into another experience. The teacher can judge this by observing and listening. A unit of work started and completed as might be done in the upper grades has no place in kindergarten.

Illustrative Descriptions

The following descriptions of social studies in Pennsylvania kindergartens show the ways in which interest started or was created by the teacher, describe the trips and the way children relived them in dramatic play, and indicate the resulting factual learnings.

FIREMEN

On the first day of school in September, Tom arrived with the little red book called *Jamie and the Fire Engine*. He presented it to the teacher to be read. By the end of the first week of school, everyone was aware of this little boy's interest in fire engines, fire houses, and books about fire engines. Before the second week was over, the outdoor jungle gym had been transformed into Firehouse No. 12. Lengths of "hose" curled around rungs, red shovels lay across the lower sections, hats were worn with visors pointing down the children's backs so that Company Number 12 was at all times ready to dash to the sandpile, to put out unexpected but frequent "fires."

Therefore, with this group it was not necessary to listen for the first indications of a group interest and plan the first trip of the year around it. Indeed, it was hard to wait until the group as a whole was ready to participate in and enjoy a trip. By the end of October, everybody seemed ready and definite planning for a visit to a firehouse began. Without any mention of such a visit the following books were read over a two-week period: *Jamie and the Fire Engine*, *Jip and the Firemen*, *The Little Fire-Engine*, *The Little Firemen*. They added to the general interest and increased the children's knowledge of fire fighting.

During this time, there was a fire in the school where Tom's mother taught. Tom brought to school the newspaper pictures of the fire. Then several other children brought pictures of firemen at work and tacked them up on the wall. One child found a picture and story of a five-year-old girl who rescued her baby brother from a burning chair and had carried him to safety. A letter was written to the little girl telling her how glad the class was the baby was not burned and how brave they all thought she had been to rescue baby brother all by herself.

The teacher and children took a trip around their school to find the fire escapes and fire extinguishers and discussed how these things could be used to help people in case of fire.

After reading *The Little Firemen* and playing the Young People's Record of the story, Tom said, "I have a friend who is a fireman. I bet he knows more about fires than anybody." After Tom had told us that his friend was at Firehouse No. 9 and that he often went there, Philip shouted, "Why can't we go there?" Immediate plans were made for the teacher to stop that afternoon to see when the children could visit Tom's Company No. 9.

The firehouse is five blocks from school. When the teacher stopped, she talked with the fireman who would do the explaining to the children. She told him the things that her group seemed most interested in knowing, the length of their attention span and some of the things about fires that sometimes frighten little children. The next day a note was sent home with each child explaining the trip and two mothers were invited to go along. The day before the trip, the teacher showed the children the pictures in the book called *The Big Fire*. They talked about some of the things they especially wanted to see and know about. The list of questions pointed out the children's interest in detail:

Is a fireman's coat heavy? How much does it weigh? What is it made of? Is a fireman's helmet tin? Is it wood? What is it anyway? How long does it take a fireman to dress? Is there always a fire dog? Can we slide down the poles? How big is a life net? Why do the red lights turn around on the front of the hook and ladder truck? Does each fireman have a special place on the truck? Before the children arrived at school on the day of the trip, the teacher placed around at the back of the room near the block shelves, three small ladders, two coils of rope, two short lengths of hose, two red shovels, a packing box, two wooden hoops, and two nail kegs. Since the children left for the trip soon after arriving at school, these things went unnoticed until their return.

Mr. Brown, the fireman who was to talk to the children, met them at the door of the fire house. He showed the children the bell system and explained the signal that meant his company was called. He told the children exactly where to go with their teacher if that call came while they were visiting, as firemen must work fast when a call comes.

Then he took the children to see the engines. He explained in detail the uses for each type of en-

gine and showed them the life net, the picks and axes, and other equipment. He took them to the spot on the hook and ladder truck where he kept his coat, boots, and helmet. The children were especially impressed when he explained the necessity for keeping things in order and always ready where they belonged so that it would never be necessary for him to rush off to a fire without his helmet. "That would be awfully dangerous," said Tom; "a piece of something burning might fall on your head." Fireman Brown answered the many questions and invited those who wished to have a turn to lift his coat, try on his boots and helmet. When finished, he had the children put everything back in exactly the right spot.

Probably the biggest thrill came when each child was allowed to climb up to the high driver's seat on the hook and ladder truck while the lights were turning so each one could press the signal button to direct the truck while riding on the back seat. The siren was not blown as it would make a terrifying noise in the small enclosure of the firehouse.

The children accepted the safety ruling of Company No. 9 that allows no child to slide down the pole. They were thrilled watching Fireman Brown slide down. As the children were saying good-bye to all the firemen who had gathered around the door, the teacher and children checked their list of questions and found Fireman Brown had answered every one.

That afternoon while several boys were playing with the ladders and big box at the back of the room, Judd called out, "Say, we can have a firehouse of our own right here." All of the articles of equipment in the room, plus a sawhorse dragged in by the boys, were made into a hook and ladder and chemical truck, Philip standing on a burning building dropped big blocks through the hoop life net to represent fat ladies jumping out of windows and little slender blocks for the thin ladies jumping out of windows. This indoor play, reliving their experiences in various forms, continued for over a week.

Four days after the trip, one afternoon outdoors, six boys turned the big red wagon into a hook and ladder truck. Ladders, hose, and shovels were rushed out from indoors and tied onto the wagon. With clang of bells and sirens shrieking and two firemen sitting atop, the other four pushed and pulled the truck from fire to fire.

All during the year, the fire play died down for weeks at a time only to flare up again with renewed interest. Each time the play grew more complex

and detailed, with greater numbers participating until now a whole volunteer company is ready to dash into action at the cry, "Fire! Fire!"

One sunny morning the last week in May the kindergarten room apparently "burst into flames." Although playing outdoors one alert "fireman" spotted "smoke" and the entire company, including boys and girls, went into action. The red wagon was assembled and the company rode up to the door. Ladders were flung against walls, hoses dragged, boys jumped through life nets and children were playing ripping up the floor when there was a shout of "Fire's over." Equipment was carried out by the children who were playing firemen and the red truck waiting at the door and the company rode away. When the teacher entered the room to inspect the damage done, she found all in order and knew Volunteer Company No. 12 was more considerate of property than any fire company in the world could be.

OUR FOODS

In the early spring when it was still too cold to plant seeds outdoors, the children and teacher began to experiment with seeds and bulbs indoors. There was much to learn about bulbs and roots and leaves. Soon many jars and cigar boxes were lined up in the warm sunshine on the window sills. There were also some boxes of seeds in the dark closet to see if seeds really need sunshine and light in order to grow. Celery was placed in water reddened with ink. As its stalks turned red, it showed clearly that plants drink water. The violet plants in the big dish also fell limply over the edge when they were not given water. Corn and beans germinating in a glass full of wet cotton sent their roots down around the inside of the glass and their green leaves above the rim so that the children could see how both roots and tops grow. Carrot tops placed in a little water sprouted fine, feathery leaves.

One day the children and teacher had an interesting discussion about which parts of plants we eat. At first the children said they did not eat leaves of plants or their roots and certainly not the bulbs, until one child said, "But we eat spinach leaves." "And lettuce," cried another. "We eat onions and they are bulbs." Soon they discovered that we eat all three, roots and leaves and bulbs.

The next morning while the children were watering their seeds, the teacher asked the children where they get all these vegetables which they eat. The first answer was, "From a war garden. You know

the gardens people had during the war." Other answers included, "From the icebox." "You can buy them at a wayside stand when you're driving home." Last of all, one child said, "At a grocery store."

Then the teacher asked, "What food do you eat that includes a great many of these vegetables?" One child said, "Stew," and another, "Vegetable soup." "Is there anything we could make here at school with vegetables?" "We could make soup," said one child, "and we could go to the store and buy things."

The children and the teacher knew that it would be a big job to make soup and that everybody would have to help. That afternoon the teacher stopped at a near-by grocery store where the food was bought for the school lunchroom. She told the storekeeper the time and the day that she would like to come with the children.

Notes were sent home explaining the trip and two mothers were invited to go along. During the morning of the day the trip was to be taken, the teacher and children sat down and made a list of the vegetables they needed to buy. Two boys suggested that a soup bone was needed; so that headed the list: soup bone, carrots, beans, turnip, peas, and potatoes.

Each child decided what he wanted to buy and his name was put beside that item on the list. Then the children visited the school kitchen and borrowed all of the things they would need for making the soup the next morning: one big bowl, several small bowls, boards to cut on, several silver knives for dicing carrots, a measuring cup, a big colander, a large soup kettle, and a long-handled spoon.

Early in the afternoon it was time to start to the store. One mother carried the list and the other the small black pocketbook with the needed money.

Mr. Jones, the storekeeper, in a clean white apron, met the children at the door. He tried to guess what they had come to buy but could not do so until they showed him their list. Each group of children asked for the thing they wanted to buy. The soup bone came first and Mr. Jones took the children behind the counter and showed them the big icebox. Each child was told he could put his hand in and feel how cold it was inside. One boy asked about the big scales hanging from the ceiling. Mr. Jones weighed a leg of lamb and compared its weight with his weight. He allowed the boys to choose the bone they wanted, helped them to weigh and to wrap it. Then each group chose its own vegetable and helped weigh it. When we

were told how much money we owed, all of the children helped decide how much change was due them from a dollar.

Upon the return to school, all of the packages were put in a cool, safe place to wait until the next day, which was to be soup-making day.

Two other mothers came to school the next morning to help make the soup. Most of the children went outdoors to play while the tables were being prepared. The few who stayed in helped arrange the tables and wash the vegetables. The boys who bought the soup bone stayed indoors because that needed to start cooking first. They washed the bone and then put it and the water into the kettle. They added the salt and helped carry the kettle to a hot plate in the next room. When all the children came indoors they could choose where they wanted to work.

The tables, covered with white paper, looked gay. On one were the green peas and a yellow bowl, on another the beans and a blue bowl, and on the third the carrots and turnips. There was a mother or teacher near each table to give help if it were needed. Soon there was a busy, earnest quietness in the room, broken by the snapping of beans and the crunching of teeth on peas and bits of carrots and turnip and green beans. The boys seemed particularly thrilled and the general group interest lasted until all the vegetables were finished. They were washed in a big colander and then the soup kettle was placed carefully in the center of the table so that each child could put a cupful of the vegetables into the soup water. Then the custodian accompanied by two boys to open doors, carried the kettle down to the school kitchen, where it was placed on the back of the big stove. (The soup could be prepared on a hot plate.)

Late that afternoon the children and teacher went to the big kitchen to turn off the burner that had been cooking the soup all day. How delicious the soup smelled! We knew it would need to be heated the next day and then it would be ready for lunch.

The excitement was very great the next day when the custodian carried in the big kettle and the children were served soup of their own making. A cupful was taken proudly to the principal's office, and two small jars were filled to be taken home to children who were absent.

A HOLIDAY

Holidays that have special appeal for children may be celebrated as a part of the social studies

program in kindergarten. The teacher and small groups of children may plan what they would like to do to celebrate the holiday in school. Occasionally the whole group may need to plan together. The teacher should be sure that the holiday does not become overstimulating or too elaborate. For example, a single party hat a child makes with a piece of newspaper is of far more value than a hat copied from a teacher's idea. The activity of preparing desserts or applesauce can be more satisfying than a party planned by a teacher, because the preparation also offers opportunities for teacher-pupil planning, shopping, and work in small groups. While many children may be interested in the holiday, there should also be opportunities concurrently for experiences with materials, equipment, dramatic play, stories, and songs that do not necessarily have any connection with a special day. The following shows some of the good planning and learning experiences in the celebration of holidays in one Pennsylvania kindergarten:

CHRISTMAS AND CHANUKAH

Orientation

The whole community was filled with the excitement of the coming holidays: Christmas for the Christian children, Chanukah for the Jewish children. Santa Claus parades, radio programs, and stores filled with gifts and special decorations added to the interest of the children. There was much talk in the homes about "secrets" and "surprises." The teacher thought that the common interest of both groups in "giving to those we love" could be used to promote a friendly feeling between parents and children of two religious groups.

Since father and mother really "do most for us," it was decided to celebrate Chanukah and Christmas by inviting them to come to see the kindergarten, entertain them, and give them a home-made gift.

Several problems arose and were solved by the group:

How to let the parents know? Make invitations.

What gifts to make? Children had ideas and used materials at hand.

How to entertain them? Plan a program, decorate the home (the kindergarten home).

The "playhouse home" was too small; so the children decided to call the kindergarten room "our home," and make a gift shop in part of the playhouse.

Each day plans were made, as much work as pos-

sible was carried out, and checked on what to do next.

Possible goals and objectives:

1. *Appreciation, knowledge, and understanding of other customs and beliefs.*

All people vary. These variations are interesting. All are alike in many ways regardless of race and religious or nationality backgrounds. All have a common God who cares for all. All share a common community. All have family love. All have fun together. All can work and live together happily. The different customs and ways of living observed in different homes are worth while and are interesting to others. These can be shared and appreciated. Chanukah and Christmas are each celebrated in honor of a great gift—Chanukah, the preservation of the everlasting light in the Temple, Christmas, the gift of the Christ child. Candles are burned for each holiday. Many traditional songs, dances, customs, and games for both holidays were learned. Some original ones were created.

2. *Trips*

The group went to neighborhood stores to see the gifts and decorations and to buy some extra materials for class use. A visit was made to the community tree. A Jewish home was visited to see the Chanukah candles lighted by the children belonging in the home. A Christian home was visited to see a Christmas tree, and the class sang Christmas songs.

3. *Things made*

Decorations were made for the room and for the tree in the kindergarten, the children deciding to use red, white, and blue for colors. A gift store was set up, the shelves were arranged, a great variety of gifts was made for the parents. The children arranged them in the store, each child placing his own gift. Some decorations were put on the tree. The covers for the invitations were decorated.

4. *The reasons for Chanukah and Christmas were discussed*

Records, songs, and stories from home were shared with the others. The teacher and children made a chart about their plans which was checked frequently. Candles and candelabra were brought from home and their uses were told. The children helped plan the invitations and programs for the celebrations. The children learned to express themselves more clearly and gained in ability to listen when others were speaking.

SCIENCE EXPERIENCES

Science experiences in kindergarten should thus broaden the child's interest, stir his curiosity toward further research, develop his ability to observe, to think, and to make simple generalizations. In science activities children should ask questions and be given an opportunity to attempt to find the answers. After observing the falling leaves and bare trees one kindergarten child asked if leaves could be pasted on trees again. During the year this child was given an opportunity to observe how leaves grow on trees. Early in the fall the teacher should survey the possible opportunities for science experiences in the community and list things that might be brought into the kindergarten room.

Often facts that are very obvious to the adult are new to the child. For example, one kindergarten child asked if tomatoes would grow from pumpkin seeds. Science information should be given to children as they ask questions, rather than having the teacher say, "Now children I'll tell you all about rabbits." Young children need opportunities to experiment in small groups with magnets, to observe plants, animals, the terrarium, and the aquarium. Some of this observation might take place as children are arriving in the morning or during the activities period. The teacher should try to answer children's questions and be listening for their comments. Often the children's questions may necessitate some research on the part of the teacher. For example, one kindergarten teacher who had a hen in the classroom was asked why little chicks hold up their beaks after they drink water. The teacher responded by saying that she would have to read about it in a book and then tell the children. The next day she told them that a chicken has no muscles in his throat to help him to swallow water, so he has to hold up his beak.

SCIENCE EXPERIENCES USED IN PENNSYLVANIA KINDERGARTENS

Activities

The activities listed below can be considered as science if they develop observation, understanding, and cause and effect relationships:

1. Collecting leaves—pressing and mounting
2. Experiences with leaves, playing with leaves, raking, and piling leaves

3. Collecting seeds
4. Planting seeds
5. Caring for house plants and bulbs
6. Looking at bird and flower books
7. Making spatter prints or blueprints of leaves and flowers
8. Watching a terrarium grow
9. Choosing and watching a class tree as it changes from time to time during the year
10. Collecting shells
11. Collecting rocks
12. Caring for a pet such as a rabbit, kitten, goldfish, or turtle
13. Visiting children's homes to see unusual pets
14. Feeding birds
15. Feeding squirrels
16. Gathering various kinds of flowers
17. Arranging flowers
18. Preparing an aquarium
19. Watching thermometers, indoor and outdoor
20. Watching barometers—various kinds
21. Observing weather and marking on calendar
22. Watching the sky and clouds
23. Observing the flight of planes
24. Flying simple kites
25. Playing with pinwheels in the wind
26. Listening to sounds
27. Excursions and observations from windows
28. Playing with shadows, inside and out
29. Playing with magnets and magnifying glass
30. Blowing soap bubbles or using prepared soap-bubble mixtures
31. Cooking food for a party or festival
32. Washing dishes (doll's)
33. Laundering aprons and doll clothes

Content

I. PLANT LIFE (Seasonal)

Autumn

1. Wild flowers—where found
2. Garden flowers—how they grow and names of more common ones—asters, zinnias, etc.; arranging
3. Parts of plants—leaves, petals, roots, etc.
4. Trees—maple, oak, elm, apple, pear, peach, or those common to neighborhood or on school-grounds. Colors, shapes



Real Things Are Best

5. Leaves—collecting, sorting, leaf prints, mounting, enjoying leaves and decorating the room with them, playing in leaves outdoors
6. Seeds—fly, stick, seeds good to eat, etc.; stringing
7. Vegetables—value as food, how they grow—pumpkins for jack-o'-lanterns
8. Bulbs—Pot them for the room; perhaps plant them around the school grounds

Winter

1. Evergreen trees—protection for birds
2. Christmas tree—decorating, arranging Christmas greens
3. Plants in room and their care

Spring

1. Pussywillows
2. Early spring flowers—wild flowers, names of common ones brought in, as dandelion and violet; where found, how planted
3. Picking flowers for May baskets

4. Garden flowers—crocus, tulip, daffodil, narcissus, etc.
5. Flowers at flower shop or greenhouse
6. Seeds planted in room or outdoor gardens if possible—nasturtium, beans, pumpkin, lettuce

II. ANIMAL LIFE (Seasonal)

Autumn

1. Pets—their activities and care
2. Squirrels—how they live—habits
3. Feeding squirrels near the school
4. Farm animals—uses, names: cows, sheep, pigs, chickens, etc.
5. Cocoons

Winter

1. Birds: names—cardinal, and chickadee or other very common varieties; where to look for them, what to feed them
2. Feeding birds from feeding station on window sill
3. Goldfish or turtle—care

Spring

1. Cocoons
2. Birds—names: robin, sparrow, woodpecker, or other very common varieties; recognize appearance, song, their activities, building nests, kindness to birds, baby birds, bird bath, bird houses
3. Caring for a pet at school, such as a rabbit, kitten, or baby chicks for a short time. May take place any time of year depending on interest, environment, and so on
4. Circus or zoo animals—wild animal study
5. Frogs and tadpoles—often brought by children
6. Names of best known wild animals—bear, lion, tiger, zebra, elephant; how cared for in zoo or circus
7. Housefly: "Swat the fly."

III. EARTH AND SKY (Seasonal)

Autumn

1. Shorter days, colder weather, frost
2. Dressing suitably

Winter

1. Snow: fun in snow—what benefit snow is to us
2. Dressing warmly—more clothing
3. Freezing water—thawing snow
4. The thermometer and the barometer
5. Sky at night—moon and stars
6. Sky in day—sun

Spring

1. Warmer weather, longer days
2. How to dress in spring
3. Spring sun—fun with shadows
4. Rain—April showers, clouds, rainbows, how rain is beneficial
5. Dew—beauty, value
6. Winds—what wind does, fun with kites and pinwheels
7. Thunder and lightning—sounds, patterns
8. New life

IV. PHYSICAL SCIENCE

1. Water—child enjoys playing with water; some things float, others sink; watching rain wash streets and make puddles and gutters, watching boiling water disappear from a pan, steam
2. Chemistry—some things disappear in water, salt, sugar, soap

3. Magnets—experimenting with magnets, some things that magnets pick up, iron or steel; some things they don't pick up
4. Magnifying glass—experimenting with magnifying glass
5. Light—reflections in room, prism in window
6. Mechanics—balancing blocks, seesaw, hammering a nail to make it go straight, watching machines such as steam shovels, cranes

Detailed Learnings of One Type of Science Experience—Seeds

General Understanding Developed

1. It is necessary to know that if seeds are cared for properly (watered, kept warm, etc.) they will grow into new plants
2. Each plant has its own seeds that will grow into plants like the one they came from
3. There are many varieties of seeds
4. Each seed has a covering to protect it till it begins to grow
5. There are different ways of scattering seeds from the plant on which they grew—by wind, sticking to people's clothing, or to animals' fur
6. People, birds and animals often use seed as food

Activities

1. An interesting way to germinate seeds is to place the seeds on a moistened blotter or absorbent cotton. It will not be necessary to replenish the water often if seeds and blotter or cotton are placed in a dish or saucer and covered with the same kind of dish turned upside down. Dish should be kept in a warm place and examined every few days. To obtain a variety of plants try sprouting bird seeds, or plant grass seed on a sponge that has been kept moist and warm. Of course, one needs to be sure that children know that seeds do not grow this way, but do grow in soil.
2. Elaborate science equipment is unnecessary for kindergarten children. Making a cage for small animals. Roll wire screening into a cylinder 6 to 8 inches in diameter. Fasten it together with a paper fastener. Set the rolled wire upright in a round pie pan or layer-cake pan of the proper size. Cap it with a similar pan turned upside down. (Two pieces of cardboard may be substituted for the pans.)

Place a twig and leaves from the plant on which the caterpillar is found in the cage. Leaves are for food and the twig is for it to spin its cocoon on. During the winter months cocoon should be moistened from time to time.

PUPIL PROGRESS

Discussing Pupil Growth with Parents

The purpose of a parent-teacher discussion is to help both to arrive at a better understanding of the child. The teacher learns as well as the parents and together they may find what is affecting the child's adjustment and progress.

The mental hygiene needs of the child and the parent should be considered. The teacher must avoid giving the feeling that the child is a failure. He should not be compared with others. Instead, the progress he has made should be the measure of success. When discussing a child, use direct and truthful statements, for there should be no doubt in the parent's mind of what the teacher means.

A teacher is often helped a great deal by listening to the parents. In many cases, the child's school problems are similar to his problems at home. A home visit enables the teacher to obtain information concerning adjustments with which a child may be having difficulty.

If a written report to parents is required by the local administration, a short letter, describing the progress of the individual child, can be sent to the parents. An illustrative kindergarten report is given in the appendix. This may be used as a general guide if a district prefers a printed card.

Evaluation of Progress for Entrance to First Grade

Evaluation of a pupil's progress should be determined by his social, motor, emotional, and educational growth, based on observations and records kept during the year. Results of the complete evaluation showing readiness can be given to the first grade teacher to help her meet the needs of this group. Account should be taken of

1. Information given by the school doctor, school nurse, and dental hygienist concerning physical characteristics, such as handicaps and immature development, as well as needs noted by the teacher

2. Social adjusting that includes the ability to cooperate, to be responsible, to have self-control, to give and accept ideas
3. Emotional maturity that shows self-confidence when meeting new problems, growth in steadiness, and an ability to adjust to frustrations
4. Actions that show proper caution rather than fear
5. Increased variety of interests and a prolonged attention span
6. Choosing suitable materials to solve problems
7. Working to capacity with satisfaction
8. Independence in thinking and doing
9. Interest in books
10. Growing curiosity about tools of learning, such as reading, writing, and numbers
11. Resumé of information gained through parent conferences
12. Information gained from standardized tests, if they can be properly given

Individuals or small groups of children can visit the first grade in the spring, become acquainted with the teacher, the room, and begin to anticipate next year's activities with pleasure.

EQUIPMENT AND SUPPLIES

Criteria for Selection

1. Is it childlike and appropriate to the level of development?
2. Does it lend itself to independent use and dramatic play, have "do-with" and varied possibilities?
3. Is it durable, safe, and large enough for children to handle easily?

The local technical or vocational high schools' shops are often helpful and will make equipment, if given complete directions by the kindergarten teacher. A local carpenter can make some of the equipment.

A Petty Cash Fund would be a help to the teacher. With it, she could purchase things as she needs them. For example, if the class is to make applesauce, she could buy the apples when needed and not have to order them months ahead.



The Kindergarten Room Should Be Large and Attractive

Essential Equipment

(Based on 24 children)

- 3 tables, each large enough for 8 children
- 1 table for library
- 24 chairs of different heights
- 1 sandtable—preferably zinc-lined with removable stopper, so that table can be used for water, as well as sand
- 1 piano—to be kept in kindergarten
- 1 record player
- 1 aquarium—5-gallon size
- 1 double easel
- Low shelves for materials and children's personal supplies
- Coat hangers, lockers, or hooks at convenient height for children to put away their own clothes
- Ample closet space for storing materials and equipment
- Climbing horses, jungle gym, rope swing, slide, and loaded keg, planks, ladders, packing boxes, rocking boat

Essential Materials

HOUSEHOLD EQUIPMENT

Tables, chairs, cupboard, dishes, stove—dolls of various sizes—equipment to wash and iron doll clothes—doll coach, bed

Table oilcloth, colored approx. 5 yds.

Pieces of cloth—dress-up material

BLOCKS

Type, such as Carolyn Pratt Unit Size Project Blocks. Vary from 2-inch cubes to blocks 22 inches long, and of varied shapes ... 500-1000

HOLLOW BLOCKS

Sizes approximately $5\frac{1}{2}$ " x 11" x 11",
 $5\frac{1}{2}$ " x 11" x 22" 4 doz. or more

TOYS

Trains, cars, trucks, animals, wagons, wheelbarrows, etc.

Sand toys—painted cans

Pull toys

Any toys that can be supplied by parents will be a welcome addition.

BALLS

6", 8", 10", 12" 8

WOODWORK

Lumber, soft wood mill-ends or "box" wood—
claw hammer—large-headed nails.

MUSICAL INSTRUMENTS

1 drum	2 tambourines 7"
1 Chinese or Indian tom-tom	12 wrist bells on webbing
2 cymbals, 5" diameter	12 bells on handles
2 triangles, 5" with striker and holder	12 rhythm sticks

OTHER MATERIALS

Sand, 100 lb. bag	3 bags
Floor brush—kindergarten size	2
Dustpan—long-handled	1
Unprinted newspaper	
12" x 18" 500 sheets to pkg.	7 pkgs.
18" x 24" 400 sheets to pkg.	7 pkgs.
Manila paper	
18" x 24" 250 sheets to pkg.	2 pkgs.
Construction paper	
9" x 12" red, green, black, orange— 100 sheets to pkg.	1 pkg. each
Finger-painting paper	2 rolls
Roll of wrapping paper	1 roll
Clay, moist, 50-lb. carton	1 carton
Stone crock, 3 gal. with lid	1
Tempora or powder paint, 1-lb. can— red, green, blue	6 cans ea.
orange, yellow, purple, brown	5 cans ea.
black	4 cans
white	1 can
Paint brushes— $\frac{1}{4}$ ", $\frac{1}{2}$ ", $\frac{3}{4}$ ", 1"	2 doz.
Colored chalk, assorted	4 doz.
Crayons, large, bulk, wrapped	
red, green, blue	4 doz. ea.
orange, yellow, purple, brown, black, 3 doz. ea.	
white	1 doz.
Paste, poster paste	1 gal.
Paste brushes or paste sticks	2 doz.
Blunt scissors	2 doz.
Magnet horseshoe, 5"	1
Magnifying glass, 2" with handle	1
Prism	1
Colored beads and lacers	
Paper napkins for lunch period, 1000 to pkg.	6 pkgs.
Paper cups, 100 to carton	20 cartons
Paper towels	
Paper handkerchiefs	
Scotch tape	1 large roll

Suggestions for Play Equipment That Can Be Easily Made or Bought at Small Cost

It is important to consider the time and energy that may go into the making of fragile equipment. Many materials can be used in the raw stage and be discarded and replaced at perhaps no cost, such as orange crates and pasteboard cartons. The following material lends itself exceptionally well to dramatic play.

OUTDOOR PLAY

Pulleys. Rope. Bind ends of rope with tape and knot for easier handling.

Baskets. Buckets. Lard buckets or gallon tin white lead paint buckets.

Bricks. Cement.

Automobile tires on ropes.

Barrels, kegs, hollowed-out logs.

Ladders and boards.

Tree house.

Wooden crates of all kinds, sizes, and shapes.

Pasteboard cartons last a short time. Mattress boxes are sometimes available.

Tin cans of various sizes, painted, for sand and dirt play. Muffin tins with colored coasters for lids.

Strong packing box mounted on discarded wheels from tricycles or wagons with strong rope for pulling or a handle for pushing.

"Fix-It" Box

Small screwdriver

Rubber tubing, several lengths

Switch. (No plug-in equipment)

Double socket

Keys on string. Padlocks

Rubber rings

Push bell

String and rope, short lengths

TRAINS—Several cheese boxes, or other strong boxes, can be hooked together. Tin cans can be used for boiler. Paint gay colors.

Simple, satisfying wooden trains can be made by children at the workbench, hooked together and painted.

Fragile wheels can be made from button molds or tin roofing rings.

TRUCKS AND CARS—Cheese boxes, cigar boxes, wooden wheels, with a pull string.

HOUSEKEEPING EQUIPMENT—Orange crates or the stronger apple crates can be used to make satisfactory chairs for the doll corner, or doll's wardrobe—bookshelves or cupboards—record-player

cabinet—stove, with burners painted on and an oven with a hinged door—sink, with pan for water between two crates covered with oil cloth—cradle or bed—costume box, containing dress-up clothes, old handbags, gloves, beads, hats, scarfs, skirts, feathers, plumes, ribbons, squares of cloth, cheese cloth dyed bright colors—rag dolls that are washable—sea shells for dishes, painted various colors—covers to jars and cans for dishes.

BLOCKS—Boxes and crates of various sizes. One teacher salvaged the drawers from discarded school desks.

ART MATERIALS—Wallpaper samples. Back may be used for easel painting. May be used to paper wooden-crate doll house.

Wrapping paper in large sheets for painting or pasting.

Newspaper for painting or pasting.

Old magazines.

Collage (See page 493 for description). Sawdust and shavings—scraps of colored paper and textiles and crepe paper—tin foil—absorbent cotton or cotton batting—sand—buttons—small clothespins—spools—gummed paper reinforcements—leaves, twigs, grass—wallpaper samples—cellophane.

FINGER PAINT—This is a simple recipe, although there are several others which are used successfully:

Mix 4 tablespoons of dry paper hanger's paste (25c lb.) with cold water until consistency of liquid paste.

Add 1 tablespoon of tempera paint.

Mix and put in sealed jar and keep in cool place.

This quantity makes $\frac{1}{2}$ pint.

Pine cones can be painted and strung with yarn. When placed against a pine bough, the cone makes a good Christmas gift for mother's doorway.

MUSIC MATERIALS

Flower pots graduated in size can be strung together and hung so they can be tapped.

Bottles filled with water at varying levels.

Drums made from wooden salad bowls, sand pails, or nail kegs covered with inner tubing or skins purchased as seconds at a music store.

Bells can be bought and taped together as wrist bells.

Horseshoes can be used for triangles.

Rattles made by partly filling small tin and wooden cans or boxes with seeds, sand, beans, pebbles, etc.

Gourds, dried.

MISCELLANEOUS

Spools and straws can be used with a large pan of soapy water for blowing bubbles.

Puzzles. Pictures can be traced or pasted on three-ply wood, shellacked and sawed into a number of pieces.

Brushes. Scrubbing brushes with a bucket of water can be used out of doors.

Knife box is used for tools, nails, hooks, etc.

Clothespins painted various colors.

Mesh bags in which oranges are bought, for carrying small blocks and toys.

Basketballs and footballs discarded by high school.

Tennis rackets or table-tennis rackets, discarded by older people.

Yarn balls, pinwheels, kites, tops, tires.

Garden implements.

Tumbling mat, cleaned or covered.

Movies. Children can make movies by making a series of pictures, pasting them on a large sheet of paper, then roll on a stick to show.

Kaleidoscope. A large kaleidoscope can be made from a cardboard mailing tube 10 to 12 inches long and 3 or 4 inches in diameter. Assemble collection of transparent materials, such as glass, cellophane, small beads, bits of lace, clear pebbles, bits of tissue, etc. To construct take apart an old or cheap kaleidoscope and follow its construction.

CATALOGS FOR EQUIPMENT AND SUPPLIES

American Crayon Co., 580 Hays Avenue, Sandusky, Ohio

Bienney and Smith Co., 676 Drexel Bldg., Philadelphia, Pa.

The Block Shop, 58 Wall Street, New Haven, Conn.

Dennison's, Dept. C-E, Framingham, Mass.

Educational Equipment Co., 69 Bank St., New York, N. Y.

Educational Playing, Inc., 20 East 69th St., New York, N. Y.

F. A. O. Schwartz, 5th Ave. & 31st St., New York, N. Y.

Fisher-Price Toys, Inc., East Aurora, N. Y. (Erie Co.)

Garrett-Buchanan Co., 526 North Charlotte Street, Lancaster, Pa.

J. L. Hammett Co., 380 Jelliff Ave., Newark, N. J.

Holgate Toys, Holgate Brothers Toy Co., Kane, Pa.

Ismor Distributors, Inc., 1004 North 3rd St., Harrisburg, Pa.

Kuntz Brothers, Clearfield, Pa.

Milton Bradley Co., 74 Park Ave., Springfield 2, Mass., or 111 8th Ave., New York, N. Y.

Playskool Institute, 900 S. Clinton St., Chicago, Ill.

Roberts and Meck, 18th St. & Bellevue Road, Harrisburg, Pa.

NOTES FOR BULLETIN 233-C

CHAPTER XI

Audio-Visual Aids in Education

INTRODUCTION

AS PENNSYLVANIA DEVELOPS an effective state-wide audio-visual-aids program, it becomes necessary to define the term "audio-visual education." Francis W. Noel, the nationally known authority on audio-visual aids, gives the following explanation which is the point of view generally accepted by schools, the armed forces, and leaders in this field:

"Even though reading this page is a visual process, few people would call it visual education. On the other hand, there are those who, by their statements and their practices, would claim that casually seeing the motion picture, 'Servant of the People,' an excellent film on our Constitution, is audio-visual education. They would consider the same to be true of 'just looking at' a study print, a series of lantern slides, an exhibit, or of 'just listening' to a radio program. No thinking person would deny that some educational gains might accrue from this limited use of audio-visual materials. However, these gains are insignificant when compared to those which result if audio-visual materials are used in terms of a broader concept of audio-visual education. If the film, 'Servant of the People,' has been chosen because it meets an instructional need, if it is used in terms of good instructional practices appropriate to the particular aid, and if the resultant learning experiences are evaluated, then audio-visual education, clearly conceived of as the use of certain materials as an integral part of the educational process, is in operation. This means (1) that the film or other aid is used in a classroom learning situation; (2) that the students know why they are seeing the film; (3) that they know how it is related to what they are studying; and (4) that they know what points to look for as they view it. It also means that there is a follow-up which will include (1) a discussion of the points which the students agreed to look for; (2) some sort of tests, oral or written, to check on facts or concepts which have been gained or attitudes which have been affected; and (3) an opportunity for students to relate what they have learned to their other experiences or to apply their newly gained insights to some everyday problems. Next, the teacher makes some sort of an evaluation to determine whether the film has fulfilled its purpose and has been used successfully as an instructional tool. This evaluation may be objective or subjective or both. It does not need to involve elaborate research. It may be a simple observation of students' interest, of the types of questions they ask or of the nature of the follow-up discussion. Finally, evaluation will lead the teacher to improve her utilization practices in the light of her experiences in using the instructional tool. Audio-visual education then refers to the carefully planned and integrated use in instruction of television, motion pictures, slides, filmstrips, stereoscopes, study prints, micro-projectors, radio, recordings, posters, maps, charts, graphs, exhibits, objects, models, specimens or, in the absence of specimens, pictures of them, field trips, and synthetic training devices."

The Scottish Educational Film Association conceives of audio-visual education as a "link between the concrete and the symbolic, giving meaning to the latter and understanding to the former." This concept is certainly implicit in the foregoing explanation. But audio-visual edu-

cation must not be considered simply a matter of materials and techniques or a new way of teaching the same old thing. The dynamic nature of the aids themselves — their content, organization, and manner of presentation—makes them potential means of presenting the inter-relationship of our interdependent society, of presenting the new patterns of life rooted in scientific discoveries and technological advances, and a means of securing the cooperation in thought and behavior so essential to order, mutual understanding, progress, and peace. The educational use of television, motion pictures, radio, slides and filmstrips, as well as of the other aids in the classroom, is a means of insuring education against isolation from the stream of world events.

As Pennsylvania schools move forward to the extensive and intensive state-wide use of audio-visual materials, an understanding of these objectives of audio-visual education will help them to develop a program which will improve and enrich instruction and hence education.

HOW TO USE THIS CHAPTER

IT IS SUGGESTED that a specific committee for audio-visual aids be appointed for a geographic or population area large enough to work out functional procedures. If several districts work on this together, each should have a small subcommittee which works closely with the committee representing the larger area. The chairmen of the subcommittees might well be the members of the central committee. In many cases, a county-wide plan may be most effective.

Each committee will then study the whole question of audio-visual aids in the light of its own resources, spread of pupil population, geography, and other facilities. After such a study a long-term plan can be made and first steps taken in the direction of accomplishing this plan.

As plans progress, this problem of the use of audio-visual aids should be made part of the total in-service program for teachers, with appropriate workshops, related courses, and college relationships.

BASIC PATTERN FOR USING AUDIO-VISUAL MATERIALS

Competencies Needed by Teachers in Elementary and Secondary Schools

1. An understanding of the philosophy and psychology of the use of audio-visual materials.
2. A knowledge of the background of audio-visual education and its bearing on present developments in the field of such education. The results of researches in the field and the implications for instruction.
3. A knowledge of local, national, and international sources of materials and equipment.
4. A knowledge and appreciation of the content and educational worth of available audio-visual materials in the specific area of the teacher's interest.
5. A knowledge of the types of resources common to most communities and of ways to appraise and utilize those resources for educational purposes, through class journeys or otherwise.
6. An understanding of the characteristics of each kind of audio-visual material and the ability to appraise its educational worth and technical quality.
7. The ability to appraise and select audio-visual materials to meet pupils' needs and purposes of instruction.
8. The ability to use each of the aids effectively in a classroom situation.
9. The ability to evaluate the effectiveness of the use of these materials in a classroom situation and to modify and improve future instructional practices on the basis of such evaluation.
10. Skill in assembling and operating various kinds of projection equipment, radios, transcription players, and recording equipment, and skill in manipulating working models and special devices.
11. A knowledge of the approved ways to store, file, and maintain the different kinds of materials and pieces of equipment.
12. Skill in the actual production of some of the simpler aids.
13. A knowledge of the services of an audio-visual department and its personnel, of the best ways

to use that service, and of the teacher's responsibility.

14. A knowledge of a few principles and procedures for setting up an audio-visual service within a single school or in a school district that does not have the services of a regular department.

Teacher Preparation

1. The teacher selects from the various types of audio-visual aids previously mentioned the material best suited to the needs of her group and the purposes she has for using it.
2. She previews this material to be sure that it will help attain her purposes.
3. She analyzes the nature of the learning process required for achieving the aims of the lesson and plans appropriate methods of use.
4. She develops a study guide or manual for the use of such material in a planned lesson.

Class Preparation

1. The teacher sets up the purposes of use with the students.
2. She develops a readiness for what is to be learned by
 - Relating what is to be learned to previous experiences of pupils
 - Making sure pupils understand the reasons for using this material
 - Arousing interest in the material to be used
 - Providing additional information or background.
3. She assures active participation in the learning by asking pupils to look for the facts, the main ideas, the general impressions, the relationships, or the specific techniques, etc., which will help achieve the purposes of the lesson.

Presentation of the Audio-Visual Material

1. The teacher arranges the best possible environmental conditions for the presentation—preferably in the individual classroom.

2. If projection is required, she checks the equipment before use, rearranges the seating, provides for ventilation and room darkening.

Class Follow-Up

1. The teacher and the pupils carry out appropriate follow-up activities to help further achieve the purposes of the lesson.
2. She discusses the points they were to look for during the presentation.
3. She makes provision for discussion period in which she clarifies points not understood, corrects errors of fact, false impressions, etc.
4. She and the students plan further activities and ways to apply what has been learned either to the problem being solved, to a new project, or to a past learning experience.
5. When necessary, she gives a test to check what has been gained.

MINIMUM EQUIPMENT GOALS

1. One 16-mm. sound projector for every 200 students
2. One filmstrip projector for every 200 students
3. One 2" x 2" projector for every 400 students
4. One 3½" x 4¼" projector for every 400 students
5. One set of 35 stereoscopes for every 400 students (elementary schools only)
6. One opaque projector for each school
7. One table-type radio for each classroom
8. One two-speed, portable 16-in. record player (complete with speaker) for each 200 students
9. One microphone for use with playback or projector for each school
10. Wall-type screens or suitable projection surface for each classroom
11. Splicing materials—cement, leader
12. Slide kits
 - a. 3½" x 4" size
 - Clear glass, frosted glass, plastic slides
 - Slide crayons
 - Ink—India, colored slide ink
 - Slide cellophane and carbon
 - Pencils—hard and soft
 - Binding tape
 - Typewriter
 - b. 2" x 2" size
 - 2" x 2" glass
 - Ready-cut mats
 - Binding tape or SVE¹ complete binder

¹ Society for Visual Education

13. Picture Mounting Materials
 - Kraft board
 - Tab board
 - 16-ply national mat board
 - Scissors
 - Paper cutter
 - Ruler—foot and yard
 - Clearseal
 - Clear flat lacquer and thinner
 - Insect sprayer
 - Dry mount
 - a. Dry mount tissue
 - b. Electric iron and heat control
14. Charts and Rosters
 - Roster paper
 - Roster paint or calcimine
 - Brushes ½", 1", small water-color brush
 - Box of water colors

The equipment listed above is a suggested minimum goal for equipment now available. No adequate recommendations can be made at this time regarding equipment now being developed, such as television receivers. Individual schools will want to modify this goal in terms of the local program and the accessibility of materials. In most instances single-purpose equipment is more desirable than dual or multiple-purpose equipment.

Additional Equipment

Acquisition of other types of equipment will be a logical result of an expanding program. Such equipment might include

- | | |
|--|-------------------------|
| Electrical phonograph | Portable public address |
| 16-in. disc recorder | system |
| Sound filmstrip projector | Photographic equipment |
| Wire or tape recorder | Central sound system |
| Special devices, such as microfilm reader, micro-projector | |

This recommendation relates to school building equipment for classroom use and gives some indication of the audio-visual education equipment requirements in the regular instructional program.

Some Principles and Functions

1. Audio-visual aids to instruction are considered an integral part of the teaching process.
2. Each aid has its advantages and its limitations.
3. The mechanics of projection and preparation must be handled with a minimum of distraction.

4. Aids have to be *taught*—incidental learning is not worth the cost.
5. Each teacher should start with the most familiar type, progressing to the more difficult as her confidence and training improve.
6. The use of aids increases the effectiveness of instruction by improving the quality and quantity of learning up to 50 per cent.
7. Aids should be used to help reach the objective set, and not as an end in themselves.
8. All instructional aids are at the mercy of the classroom teacher.
9. Audio-visual aids are not a coming thing—they are here.

Standards for Evaluating Films for School Use

The following 100-point scale may be used in appraising films:

I. ACCURACY—20 points

1. Of subject matter, sight, and sound
2. Not obsolete
3. Complete in presentation
4. Free from bias or prejudice
5. Emphasis on important elements

II. APPROPRIATENESS TO GRADE LEVEL—20 points

1. Scene length—pace
2. Rate of speech
3. Vocabulary
4. Relative amount of detail
5. Transition between scenes
6. Choice and treatment of subject matter: Is it presented coldly? emotionally? Does it build a mood or attitude?

III. APPLICATION TO LOCAL COURSE OF STUDY— 20 points

IV. TECHNICAL QUALITIES—20 points

1. Definition
2. Points of reference for size
3. Close-ups—should be numerous
4. Sound—should be intelligible
5. Good composition
6. Good camera angles

V. GENERAL TEACHING VALUE—20 points

1. Good introduction
2. Good conclusion
3. Good organization
4. Adequate repetition
5. Ample illustration of important points

NOTES FOR 233-C

MOUNTED PICTURES, MUSEUM MATERIAL, AND OTHER VISUAL AIDS

Motion pictures, lantern slides, and other mechanical devices which project pictures on a surface or screen are not the only visual aids for instructional use. Studies indicate that they are exceeded in use by other visual aids, such as the school journey, plays and pageants, objects, specimens, models, museum pieces, graphs, maps, globes, sand tables, photographs, and prints.

The term *visual-aid* is used because the teacher must prepare for the visual lesson first. Mere exposure of children to visual material will not necessarily teach them. When visual material is used, the teacher and the text material become still more important.

Values of Visual-Aid Material

1. To build graphic concepts
2. To make concepts more meaningful
3. To derive the abstract from the concrete
4. To prevent incorrect verbalism
5. To establish correct generalizations
6. To supply vicarious experiences
7. To pre-show what is in a lesson
8. To stimulate activity
9. To raise questions
10. To show how, where, and when

MOUNTED PICTURES

The Value of Mounted Picture Collections

Teachers should not overlook the value of mounted pictures as visual aids. They are most inexpensive and are readily available as part of the community resources. A mounted picture collection can be defined as an organized collection of pictures gathered from various sources, such as books, magazines, and newspapers, and mounted on cardboard for instructional uses.

We live in a world of pictures which influence our lives to a greater degree than we realize. Even our alphabet was evolved from picture symbols. Magazines and newspapers which do not make abun-

dant and related use of pictures are limited in circulation. The value of pictures in all phases of advertising attests their importance as an educational device of high value. An old Chinese proverb states, "A picture is worth ten thousand words."

A collection of mounted pictures fulfills the requirement of being available at the moment when they are needed. Children read and talk about unfamiliar people, places, and things, but cannot form clear concepts unless an accurate and vivid visual perception of those ideas is experienced. Mounted pictures, supplied by the teacher, are a part of the environment indispensable to pupil growth and learning.

Building a Collection of Mounted Pictures

It is preferable to mount the pictures on 8½" by 11" stiff cardboard. Bristol board, oak tag, melton mounts or any other suitable material may be used. The size suggested can be filed in a regular letter-size filing cabinet. The conventional type of orange crate is also of the exact size to hold the 8½" by 11" card. Rubber cement, now sold for stationery use, has been found to be most satisfactory as a paste since it does not cause the pictures to wrinkle.

After pictures are mounted they must be made readily accessible for those who will use them. This means that a filing system will have to be set up. They may be filed by number; alphabetically by titles; by subjects in packs; or they can be filed by a combination of these three ways.

If the pictures are filed by numbers, a cross index will have to be maintained on separate cards or sheets. These may be control cards for subjects, such as geography, history, health, and science, upon which are listed the number and title of the mounted picture. In this way the same picture may be listed on several control cards, making use of the same picture for two or more subjects.

If the pictures are filed alphabetically by titles, a system of cross-indexing by subjects is desirable to facilitate their use.

If the pictures are filed by subject in packs, envelopes or file folders can be used, and the packs arranged in the cabinet alphabetically.

Space should be left at the top of the mount for labeling which may contain any or all the information illustrated below.

No. 85 Marines in Action World War II	History United States
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No. 105 Water Lily Adaptation	Nature Study Flowers
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Any one teacher can easily build a collection of mounted pictures, but it is desirable that the collection be a project for the entire school. This should be a resource to be used by all teachers to enrich the curriculum. When a collection for use of the entire school is to be started, all teachers should be apprised as to the methods, organization, and system to be used in building and using the project.

Using the Mounted Picture Collection

The classroom teacher will find that by using well selected pictures that fit the lesson or the unit in progress, many minutes of discussion can be saved in presenting a point. Care should be taken to show only pictures that pertain to the subject discussed, and to show the number necessary rather than many pictures. The pictures can be held up in front of the class for observation and then passed around from one child to another. Mounted pictures are indispensable where an opaque projector is available. They may be displayed on the walls of the room for a period of time, but should be returned to the filing case as soon as they are no longer useful to the learning situation.

Building a Mounted Picture Collection Can Be Good Public Relations

Teachers and administrators should be aware of the possibilities for good public relations through a project of building a mounted picture collection. When parents know that they can help by making contributions to the project, a surprising number of them will look for pictures in magazines, cut them out and bring them to the school at meetings and at other times, thus creating desirable parent-teacher relationships. When parents know that something is done in the school for the benefit of the children, a more favorable attitude on the part of the public is created.

THE SCHOOL MUSEUM

The school museum is almost a necessity in every school. It is not expensive to build or to operate.

The school museum should not be thought of as a collection of unusual objects and specimens kept in glass cases. On the other hand, it should be a collection consisting of any objects and specimens obtainable about which children ask questions.

Space will be required for storing the materials. In addition to the object-specimen collection, the museum may consist of pictures, slides, film strips, posters, exhibits, records, motion picture reels, and other audio-visual equipment the school may own. If the school has a central library, the library staff may well handle the museum service. Otherwise, a clerk, a teacher, or a pupil may take charge.

Children are good museum collectors and even the parents will be of help if they are apprised of the needs. Industrial firms are often willing to offer special exhibits to schools. Several lists of companies and organizations that furnish free curriculum materials have been compiled.

It is desirable to have the museum cataloged regardless of size and have the lists distributed to all teachers in the school. The ultimate aim is first to build it, then to use it.

MAPS, GLOBES, AND CHARTS

From childhood, man is map-minded; he could not get along well in a civilized world if he could not establish space, time, location, direction, size, distance, and environmental relationships. Maps attempt to reduce the abstract expanse of distance and mass down to a scale of meaningful imagination and intimate understanding.

Maps, globes, and charts have long been used in the classroom as visual-aid material. The objections to maps of an earlier day are that they were limited in variety as to purpose and usage, and they were often very abstract. Attempts have been made to correct these objections by various types of projections in relation to meridians and parallels, and by constructing maps of various types and forms for specific usage.

Types of Maps and Charts

1. Globe
2. Relief Maps
3. Flat Maps and Charts



Local Industries Are Made Meaningful Through Visual Aids

Types as to Content

- a. Air-age Maps
- b. Population Maps
- c. Political Maps
- d. Political-Physical Maps
- e. Economic Maps
- f. Rainfall or Precipitation Maps
- g. Temperature Maps
- h. Soil and Vegetable Maps
- i. Road Maps
- j. Other specialized maps and charts—history, literature, music, health, accident, language, institutions and services.

Types According to Form

- a. Outline Map
- b. Completed Wall Map
- c. Projected Maps (from slides or film strips)
- d. Sand-table Maps
- e. Electric Maps
- f. Pictorial Statistics Maps

- g. Graphic Statistical Charts
- h. Decorative Maps

A basic requirement for maps and charts is that they must be up to date and accurate. There are a number of long-established map firms that furnish satisfactory services to schools. If the school is not financially able to purchase all of the maps needed, it would be well to investigate the possibility of purchasing or making map slides. They are economical and can be stored easily.

Some educators criticize pupil-made maps and charts on the ground that map-making is a highly technical and specialized occupation. However, it is logical to assume that there is value to the pupil in constructing maps just as there is value in any pupil activity, such as picture-painting, newspaper-publishing, and scrapbook-assembling.

A separate purchasing guide for the instrumentation of this curriculum through maps and globes has been prepared and is available through the Division of Elementary Education, Department of Public Instruction.

RADIO

Many Pennsylvanians, with considerable justification, feel that their schools are advanced in audio-visual education. This is not true of the school use of radio, which should be a part of the audio-visual program. Even in areas where excellent audio-visual education services have been developed, many schools have failed to develop a significant, educational use of the many worth-while radio programs that are available for in-school and out-of-school use. Neither, as a State, are we taking advantage of the new FM (frequency modulation) channels recently assigned to education by the Federal Communications Commission. Radio stations have provided excellent leadership and have cooperated whenever possible, but schools, for the most part, have failed to carry on activities related to radio education.

Why Use Radio in Education?

Most teachers in attempting to promote the use of radio in the school system will find it necessary not only to convince the parents of its value, but sometimes also the superintendent of schools and the principal. Teachers who use radio and other modern facilities are thereby challenged to develop sound functional programs and to demonstrate their real educational values. With this thought in mind, here are twelve reasons why radio should become a part of the education system.

1. Radio is timely. Radio presents and interprets events while they are current and before they become history.
2. Radio gives pupils a sense of participation. When a child hears an "actuality" broadcast, appropriate to his maturity level, he has a real feeling of participating in the event.
3. Radio can be an emotional force in the creation of desirable attitudes.
4. Radio can add authority. Leaders may become members of the staff to assist the teacher actively in developing the radio education program.
5. Radio can integrate the learner's experience. Many programs help to correlate what the child may consider unrelated knowledge.
6. Radio can challenge dogmatic teaching. Radio has the capacity to encourage a more scientific attitude toward social problems.

7. Radio can be used to develop discrimination. By encouraging children to listen to better programs the teacher can enrich the child's growth.
8. Radio conquers space. With radio the most isolated classroom can tune in on the world.
9. Radio can help in continuous curriculum revision. Every radio education program contributes to curriculum revision by adding information or by new emphasis upon curriculum content.
10. Radio can improve teaching skills. With the help of radio the classroom teacher has the opportunity of observing in her own room the techniques of an expert.
11. Radio can interpret the schools to the community. Public relations broadcasting can be in good taste and provide good listening.
12. Radio can serve the handicapped child—those with poor eyesight whose reading habits must be guarded, and those who cannot attend school.

The Integration of Radio with the Curriculum

Teachers should consider carefully the value of radio as an integrating medium between subjects of the school curriculum. They usually welcome materials that shed new light on the traditional subject matter presented in our schools today. If they will use radio as a supplementary tool to bring fresh up-to-the-minute news to their classes, they will find that they have infused new light into their teaching and new interest into the hearts of the children. There are few subjects in the curriculum, particularly in the elementary school, that cannot be enriched and vitalized through radio programs. Information coming from all corners of the world will stimulate and interest the child in the geography and people of other lands, their habits and customs, and will add to the information he may already have. Through the use of newscasts and programs of geography, another land becomes more than a mere spot on the map and the people something more than a race wearing "freakish" costumes.

Historical events in dramatized form bring to life many of the characters that are only names



Radio Motivates Good Speech

when they occur in the textbook. Through scenes from local and national history, students develop a pride in America and an appreciation of its heroes.

The radio's contribution in the field of English is almost immeasurable. It can develop an understanding and appreciation of literature and poetry and will increase the enjoyment of the child in the better literary offerings. Through discussion periods following each broadcast, skill in both the spoken and written word may be gained; vocabularies are bound to increase as the student adds to his own word list new words heard on the air. Radio will stimulate and guide the reading experiences of pupils and, as a result, increased enjoyment will be evidenced.

Radio serves a definite purpose in music inasmuch as true appreciation can be developed through its use. Rhythm may be studied, instrumentation of the orchestra taught, improved tone quality and correct voice placement studied, and part singing and harmony encouraged.

In public speaking, radio provides a guide to

good speech, encourages better diction, thus improving enunciation, pronunciation, and voice.

The radio will stimulate an interest in science. It will encourage creative work in art. It will help to develop social courtesies.

These are but a few of the many ways in which radio may be integrated with the curriculum; any teacher once making genuine use of this new medium of education will appreciate its true value and how great an aid it can be in vitalizing the school curriculum.

In-Service Training in Radio

No radio education program will be successful unless the teachers are interested in radio, know something about it, believe in its worth, and have some skill in using it. Teacher training is necessary in any community if the program is to develop properly and accomplish the objectives for which it is set up. A teacher must be convinced that radio is an instrument of education and that its utilization will contribute to the true purpose of education

and to the classroom curriculum. The harnessing of this tool of education is the teachers' problem and many teachers are now working diligently toward its solution.

Some Administrative Suggestions

1. Appoint, or have appointed, a local radio committee.
2. Have a faculty meeting to consider the utilization of radio in education.
3. Secure outlets for all rooms so radios can be used.
4. Survey materials on hand, or materials that can be borrowed.
5. Start a file for radio-in-education material.
6. Request local, regional, and national radio stations and groups to place you on their mailing lists.
7. Develop a bibliography of source material.
8. Make a survey of pupil-teacher-parent listening habits.
9. Use some of the money appropriated for reference material to purchase pertinent radio books.
10. Specifically place in the budget a request for funds for a radio-in-education program.
11. Plan with teachers and pupils methods of raising money for equipment (Through parent-teacher organizations, Chamber of Commerce, etc.)
12. Ask for gifts of radios, for lower grades especially.
13. Post your local newspaper radio page in a conspicuous place. *The New York Times* publishes an excellent radio page.
14. Encourage everyone to express appreciation of good programs.
15. Prepare periodically a "good listening" sheet for pupils and parents.
16. Install a radio bulletin board in a conspicuous place.

Misconceptions Sometimes Expressed on Radio as an Education Tool

The following rumors concerning the use of radio in education should be labeled false and dismissed from constructive thinking:

1. *Radio will eventually replace the individual teacher.*

Good radio assists but never supplants the good teacher.

2. *Radio will make teaching easier.*

Every superior teacher knows that improved teaching calls for alertness and creativeness, which are never easy.

3. *Radio is equally useful to all teachers.*

Because teachers vary greatly, their methods and techniques defy standardization.

4. *Out-of-school listening is unimportant.*

Nothing which has a strong influence upon youth educationally is unimportant.

5. *Radio must be geared to the traditional curriculum.*

One of the most important features of radio is that it transcends ordinary academic learning by presenting segments of interesting life, important events, and worth-while experiences in lifelike fashion.

General Recommendations for Improving the Use of Radio in Education

1. For initiating plans and policies of using radio in a school system and for improving those in use, an advisory committee should be appointed. This committee should consist of representatives of all interested groups—teachers, supervisory and administrative personnel, the local radio stations (if any), patrons of the school who can and wish to help, and the student organization particularly concerned with radio.
2. Start slowly with a modest beginning and grow only as rapidly as conditions warrant. Policies should prove their true worth before building upon them.
3. Make the fullest use possible of the local broadcasting station. American radio stations are licensed to serve in the public interest. The Federal Communications Commission holds that stations must include a reasonable amount of program material of a broadly educational nature in order to serve the public interest. The wider, more intelligent use of commercial radio is a joint responsibility of the broadcaster and the educator.
4. Use existing agencies for answers to plan and policy problems. Call upon your State Department of Public Instruction, your local radio station manager, the educational directors of the four major networks. Build a radio library, starting with a few well-chosen books, periodi-

cals, teachers' guides. Later add transcriptions, recordings, scripts, and other materials.

5. Conduct simple surveys. How many homes have one or more radios? Do pupils have opportunities to listen to programs of their own choice? What stations provide the best programs and allow for clear reception?
6. Discuss radio with individuals and local groups, such as parent-teacher organizations, teacher groups, and others interested in school improvement.
7. Teachers and students may exert a direct and wholesome influence upon the quality and quantity of programs by the proper use of letters and cards sent to broadcasters and sponsors. If a program is good, tell the broadcasters that you liked it and why. They will appreciate your reaction. It is the only way they have of knowing what is deemed useful and good (or bad). They are very sensitive to public response.

Recommendation for Best Equipment to Further the Use of Radio in Education

1. A.M.-F.M. Radio Receiver¹ with good selectivity and sensitivity for each classroom
2. A playback with dual speeds (33 $\frac{1}{3}$ and 78 R.P.M.²) capable of playing 12" or 16" transcriptions.
3. A tape or wire recorder
4. A filing cabinet for records and transcriptions. Discs should be stored—
 - a. In a cool place.

¹The older type of receiving set utilizes amplitude modulation (A.M.); the newer radio receivers utilize both amplitude modulation (A.M.) and frequency modulation (F.M.). Reception by F.M. is almost entirely free of static and man-made interference.

²Revolutions per minute.

- b. In a flat position, if space allows, because they are flexible and may warp. If stored in a perpendicular position, stack closely.
- c. In a heavy paper envelope to avoid dust and scratches. When dust does accumulate, brush the disc lightly with a soft cloth or powder puff.

Using the Radio Can Be Good Public Relations

When our educators trained in the art of broadcasting take their rightful places at the microphones of the stations now available, and eventually at the microphones of a Pennsylvania non-commercial educational network, they will take education to the people. They will enter the homes, offices, taverns, autos, airplanes, even the buses and the trolleys. They will become welcome and familiar visitors.

They will play a more dominant and intimate role in the life of the people of their community. This will make for a better understanding between the community and the educator and the educational program. This will be a public relations venture that will bear fruit in many ways. For example, when the citizen goes to the polls to vote on a tax levy he may be inclined to remember the school as a host of friendly, helpful counselors instead of a remote impersonal institution.

Speed up and energize classroom work through your local station. Use the station to share your specialized knowledge with the community. End your isolation from the main stream of life in your community.

A radio-minded public and a radio-minded generation of students await the radio-minded educator.

TRANSCRIPTIONS—RECORDINGS AND EQUIPMENT

Radio Receivers

When a radio receiver is being considered, any A.M.-F.M. table portable or console model is useful. For the best reception conditions, however, the very small set should be eliminated. The type of ceilings, walls and floor, and the size of the room must be noted. For the best quality of reception the set should be warmed up and accurately tuned before program time. In rural sections an outside aerial brings in a better signal.

A radio receiver (A.M.-F.M.) in each classroom is much to be preferred; however, if this is impracticable or impossible, the next best thing is a centralized sound system to aid in the broadening and enrichment of audio aids to instruction in the present-day curriculum. The sound system is flexible in operation and may be adjusted to several uses at one time. It has a radio receiver with reliable reception which may be fed to one or several rooms at the same time that other rooms are listening to transcriptions. The centralized system

also allows student participation on intraschool programs.

Transcriptions of Radio Programs

Transcriptions of programs which are aired at a time inconvenient for classroom use, and which are important sources of material, are being used increasingly. Many playback machines now on the market do not have the necessary specifications for school use.

Most useful is the portable model player for playing radio transcriptions or phonograph records, because it contains all equipment—cable, speaker, turntable, etc., in one cabinet for convenience in transporting. The reproducing quality must be as nearly perfect under the acoustical conditions as possible. The machine must be designed simply so that persons without technical knowledge can operate it. The classroom playback should be suitable for playing 16" discs, and must have dual speeds, 33 $\frac{1}{3}$ and 78 RPM's.

The Disc Recorder

The disc recorder is valuable for school use. Discs can be filed for future use. The machine may be used for playback purposes. The pupil, in the case of speech improvement, may take the disc home for future study.

The Tape Recorder

The tape recorder has excellent reproducing fidelity. The tape may be rewound and used many times. The tape recorder eliminates the expense of discs.

The Wire Recorder

The wire recorder is compact and useful because of its portability; however, the reproduction does not always have the best tonal quality.

The Phonograph or Record Player

For the average Pennsylvania elementary school, the phonograph or record player will continue to be the most widely used mechanical audio teaching

aid. It has definite advantages over the radio to the extent that the number can be played at any possible moment in the school day, and the number can be repeated more than once. It also has advantages over the sound motion picture to the extent that it is simpler and less expensive to operate.

Music teachers consider phonograph records as indispensable for instruction in music. Records are used to teach rhythms, songs, sounds of orchestra instruments, appreciation for great musical compositions, and the history of music. While phonograph records are used more widely for music instruction, there are many other uses for this machine. There are speech correction records, physical training records, records for teaching literature, nature study, geography, and social sciences.

The electrically operated type of record player in which volume can be controlled is the most satisfactory type of machine. If it is not possible for a school to own this type, the hand-wound phonograph is still valuable. If a school is fortunate enough to own machines that are capable of making records and playing them back, they may be used for speech correction work, for drama work, and for recording radio programs to be presented at another time.

Phonograph records are relatively inexpensive and every school in the State can have a record collection. For the small school, the record collection can be a part of the classroom equipment. In a large school system, the record collection can be a separate library, a part of the museum, or a part of the central library. There are also possibilities of setting up phonograph record collections as loan projects, similar to those of film libraries or even in connection with county or municipal libraries. In fact, many of the county and municipal libraries now have phonograph loan service. For purchase sources of phonograph records for school use, consult the local record dealer.

Schools that wish to purchase new phonographs or record players, should insist on dual speeds with 16" turntables. This will enable schools to play radio transcription records. At present there are fifteen-minute programs of radio transmissions available which are pressed on 16" discs to be run at 33 $\frac{1}{3}$ RPM.

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STANDARD SOURCES OF INFORMATION ABOUT FILMS

Audio-Visual Aids to Schools, Colleges, Churches, and Adult Study Groups. Catalog. Free. Chapel Hill. University of North Carolina, Educational Film Library and Lantern Slide Loan Service.

Catalog. Vocational Film Library, N. C. State College, Raleigh, N. C. Free.

Directory of U. S. Government Films. (F.S.A.—Formerly U. S. Film Service.) Apply to Superintendent of Documents, Washington, D. C. Lists many films on conservation and national problems.

Educational Film Guide. A classified index of non-theatrical films. H. W. Wilson Co., New York. Nine monthly issues plus bound volume (June). \$3.00.

Educational Screen. Monthly. 64 East Lake Street, Chicago, Ill. \$3.00 a year. Free to members of the Department of Visual Instruction, NEA.

Film News. American Film Center, Inc., 45 Rockefeller Plaza, New York City. \$1.00 a year. World-wide news of documentary and educational motion pictures.

See and Hear. Monthly. September to May. Eau Claire, Wisconsin. \$3.00 a year. A journal on audio-visual learning.

Selected Educational Motion Pictures. Washington: American Council on Education. 372 pages. 1942. \$3.00. An encyclopedia containing essential information on approximately 500 16 mm. motion pictures evaluated in curriculum terms by competent judges.

The News Letter. Monthly. Bureau of Educational Research, Ohio State University, Columbus, Ohio. Free.

U. S. Department of Commerce, Washington, D. C.:

- (1) *A Partial List of Catalogs and Sources of Non-Theatrical Films*. Mimeographed. Free.
- (2) *Current Releases of Non-Theatrical Films and Film Notes*. \$1.00 a year. .10 a copy.

RADIO IN EDUCATION

ABBOT, WALDO. *Handbook of Broadcasting*. New York: McGraw-Hill Book Co., Inc., 2nd Ed. 1941. \$3.50. Discusses the possibilities of radio as a vocation as well as the technical aspects of the subject.

BARTLETT, KENNETH L. *How to Use Radio*. Washington: National Association of Broadcasters, 1938. Free. An outline of practical suggestions for the teacher and radio chairman.

CARLILE, JOHN S. *Production and Direction of Radio Programs*. New York: Prentice-Hall, Inc. 1940. Text ed. \$3.50.

Catalog of Recordings. New York University Film Library, 71 Washington Square South, New York 12, N. Y.

CBS Student Guide. Columbia Broadcasting System, 465 Madison Avenue, New York. Free. A monthly schedule of educational broadcasts.

Federal Radio Education Committee. U. S. Office of Education, Washington 25, D. C. Distributes numerous reports resulting from research conducted in U. S. Office of Education, Ohio State University, and Columbia University. Free folder on request.

HARRISON, MARGARET. *Radio in the Classroom*. New York: Prentice-Hall. 1937. Discusses radio in education and suggests desirable uses and techniques.

Journal of the AER. Association of Education by Radio, 228 N. LaSalle St., Chicago 1, Ill. \$2.00 a year, 8 issues.

LEVENSON, WILLIAM B. *Teaching Through Radio*. New York: Farrar and Rinehart, Inc. 1945. \$3.00. Written by the director of Cleveland's school-owned radio station. Presents basic information and techniques needed by teachers and school administrators.

National Association of Broadcasters. *How to Use Radio in the Classroom*. Washington, D. C. 1939. Free. A booklet suggesting procedures for more effective classroom use of radio.

NBC Presents. National Broadcasting Company, RCA Building, New York. Free. Monthly listing of educational broadcasts.

Radio Bibliography. U. S. Office of Education, Washington 25, D. C. Up-to-date references. Free.

Radio Programs for School Listening. Prepared under auspices of U. S. Office of Education. A monthly listing of some 40 programs selected by an advisory committee. Printed each month in one of the weekly editions of *Scholastic* magazine, Teacher's Edition, 220 East 42nd St., New York 17, N. Y. Subscription to Teacher's Edition of *Scholastic*, \$2.50 a year.

Radio Script Catalog. U. S. Office of Education, Washington 25, D. C. Carefully annotated list of more than 1100 radio scripts suitable for educational use and available on free loan through the Radio Script and Transcription Exchange.

WOELFEL, NORMAN, AND TYLOR, I. KEITH. *Radio and the School*. Yonkers, New York: World Book Co. 1945. \$2.12. Not just a textbook for teachers, but rather a general volume which examines all of the educational aspects of American Radio.

OTHER TYPES OF AUDITORY AND VISUAL AIDS

ATYEO, N. C. *The Excursion as a Teaching Technique*. New York: Bureau of Publications, Teachers College, Columbia

University. A study of the school journey as an aid in learning.

Department of Public Instruction, Harrisburg, Pa.:

Bulletin 212—Educational Monographs: *Visual Education and the School Journey*.

Bulletin 213—Educational Monographs: *The Object-Specimen-Model as a Visual and Other Sensory Aid, and a Blackboard Technique*.

HAMILTON, C. E. *How to Make Handmade Lantern Slides*. Meadville, Pa. Keystone View Co. 1939. 23 pages. Describes the process of making slides on etched glass and cellophane.

National Education Association. *Materials of Instruction*. Eighth Yearbook. Washington: Department of Supervisors and Directors of Instruction. 1935. A study of the function and place of materials in instruction. Sets up principles for selection and use.

RAMSEY, GRACE FISHER. *Educational Work in Museums of the U. S.* New York: H. W. Wilson Co. 1938. An excellent summary of the assistance rendered to schools by museums throughout the country.

RENNER, G. T. "The Map in Modern Education," *Teachers College Record*, May, 1939. One of the best articles on the use of maps in education.

ORGANIZATIONS FOR THE PROMOTION OF A WIDER AND MORE EFFECTIVE USE OF PERCEPTUAL AIDS TO LEARNING

American Television Society, 271 Madison Ave., New York, N. Y.

Commission on Motion Pictures in Education, American Council on Education, 744 Jackson Place, Washington, D. C.

Committee on Scientific Aids to Learning. Apply for list of publications to Federal Radio Education Committee, U. S. Office of Education, Washington 25, D. C. These three are of special interest to public schools:

- (1) *Central Sound System for Schools*.
- (2) *Sound Recording Equipment for Schools*.
- (3) *Broadcast Receivers and Phonographs for Classroom Use*.

Institute for Education by Radio, Ohio State University, Columbus, Ohio.

National Committee on Education by Radio, 1 Madison Ave., New York, N. Y.

Audio-Visual Department, U. S. Office of Education, Washington 25, D. C.

AVAILABLE TRANSCRIPTIONS AND RECORDINGS

Records and transcriptions may be purchased from the following:

Columbia Recording Corp. New York City, N. Y.	Hollywood Film Guild 6411 Hollywood Blvd. Hollywood, Calif.
Decca Records, Inc. 50 W. 57th St., N. Y.	Music You Enjoy 420 Lexington Ave., N. Y.
Linguaphone Institute 30 Rockefeller Plaza New York 20, N. Y.	National Council of Teachers of English 221 W. 68th St. Chicago, Ill.
R.C.A. Victor 30 Rockefeller Plaza New York 20, N. Y.	Association of Junior Leagues of America Waldorf Astoria, N. Y. C.

The following agency loans or rents transcriptions and recordings:

Educational Radio Transcriptions Exchange, U. S. Office of Education, Washington, D. C.

Recordings for School Use, by J. ROBERT MILES, published by the World Book Co., facilitates the wise purchase and effective use of records and transcriptions. The listings are according to subject matter on both secondary and elementary levels. Current available material is not listed because the book was published in 1942. Catalogs furnish information on type 78 or 33 $\frac{1}{3}$ RPM.

ORGANIZATIONS WHICH HAVE AUDIO-VISUAL AIDS

Anti-Defamation League, 20 W. 40th St., New York 18, N. Y. Film brochure, phonograph record list and guide, list of pamphlets, plays, and posters upon request.

Pennsylvania Game Commission, Harrisburg, Pa. Visual aids and publications. This Commission also has a lecture service. Each administrator should request name and address of lecturer for his section of the State.

Consult also your nearest college library for services in this field.

NOTES FOR 233-C

Acknowledgments

STATE PLANNING AND PRODUCTION COMMITTEES

THE FOLLOWING committees were organized at the State level. By the middle of May, 1948, all were at work. They used material sent in from the field for illustrative material and as data for making decisions as to scope and sequence and method. These committees were as representative as possible of the sections of the State and of the types of work done. There were classroom teachers, principals, supervisors, superintendents of rural and city areas, and college teachers on the State Production Committees.

The members of these committees worked in the Department of Public Instruction from three to fifteen days each. The State paid their expenses, but the local boards gave their time. The cooperation of all concerned has been wholehearted and sincere. This is the stuff of which democracy is made.

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LAY PARTICIPATION

One of the fundamental ideas which has guided the elementary curriculum revision program in Pennsylvania is that the curriculum should reflect the life of the area and of the times in order to more aptly fit the needs of children and communities. For this reason two groups of lay citizens were established. These two groups have served well and graciously and have performed the dual work of keeping inter-communication open between the Department and the public and, in some cases, supplying needed research data. Grateful acknowledgment is made to these groups for their splendid advisory

service in the preliminary planning that went into this program for improving the elementary schools for Pennsylvania's children.

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Military Order of the Purple Heart
National Catholic Education Groups
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Quota Service Club
Rotary Service Club
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Society for Crippled Children
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REPORTS AND RECOMMENDATIONS RECEIVED FROM LOCAL COMMITTEES

From the time Bulletin 233-A, "*Local Participation in State-Wide Revision of the Elementary School Curriculum*," was made available during the summer of 1946, local school districts studied their own problems and worked out solutions for them. The reports and recommendations of these local studies were sent to the Department of Public Instruction where they were all used as working data by the production committees who worked on this bulletin. Grateful acknowledgment is made for the one thousand pieces of material received, which are listed here in alphabetical order, by counties and districts.

GENERAL—ADMINISTRATION—CLASSROOM LIVING AND MANAGEMENT

Adams County

ADAMS COUNTY

The Objectives of Self-Realization, Human Relationship, Civic Responsibility, and Economic Efficiency

BIGLERVILLE

Workshop Report on Curriculum Revision at Biglerville — 1947

Allegheny County

ALLEGHENY COUNTY AND PITTSBURGH AREA GROUP

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ETNA

Course of Study — Grades 1-8 — Jean Blackwood, Mary Burnite, Blanche Campbell, Joseph Chalfont, Florence I. Coulter, Jean Derry, Mary Dethlefs, Kathleen French, Martha Gardner, Elizabeth George, Helen Hassenfritz, Myrtle Hodil, Florence Irvine, Lulu Irvine, Helen Kane, Kathryn Lange, Herbert Lewis, Ruth Lewis, Anna Logue, Martina Lytle, Robert McKee, C. L. McMillen, Florence Schneider, Ida Schor, Ruth Schwartz, Sara Seitz, Sara Wise, Frances Yahres, Florence Yerkins

FORWARD TOWNSHIP

Behavior—Lois Bainbridge, Martha Stine

A Working Philosophy of Education in Pennsylvania—three teachers of Bunola School

MOON TOWNSHIP, CORAOPOLIS

Recommendations—J. A. Allard

MT. LEBANON

Basic Objectives—Grades 1-6

PITTSBURGH

Catalog of Audio-Visual Aids in Instruction—Andrew J. Bradac, Chairman, Section on Audio-Visual Aids of the Division of Curriculum Development and Research

Survey of Time Distribution by Subjects in Selected Pennsylvania Elementary Schools—Grades 1-6—John H. Linton

WEST MIFFLIN BORO

General Objectives of the Elementary School—S. Harry Bruce

Beaver County

ALIQUIPPA

Primary School—A. D. Dungan, Olive B. Tschippert, Lytle M. Wilson

BEAVER COUNTY

A Brief Course of Study

Bedford County

BEDFORD BORO

Daily Schedule Suggestions—Miss Henrie, Miss Keyser, Mrs. Mowry, Mrs. Shaffer

Berks County

BERKS COUNTY

Berks County School Bulletins, December 1947, January 1948 —Newton W. Geiss, William B. Herbein, William C. Kutz, Richard M. Moll, Matthew J. A. Smith, J. Maurice Strattan, George B. Swinehart, Emalyn R. Weiss

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Classroom Democracy, One-Room Rural School—Earl H. Fenstermacher, Sadie H. Kutz

Community Use of School Buildings—Harry Ebling

Elementary Curriculum Report, Seat Work Committee — Emma W. Bicher, Marion S. Bryner, Pauline W. Davis, Annie L. Eberly, Marguerite M. Frey, Florence H. Grubb, Mabel V. Gulinello, Aaron B. Hess, Anna Hoffman, Esther E. Kistler, Virgie S. Lamm, Hattie R. Levine, Ellen M. Madeira, Florence G. Merkel, Mildred A. Moyer, Hannah R. Rank, Grace L. Rothermel, Sadie S. Rothermel, Annabel W. Schofield, Laura May Snyder, Hazel L. Trafford, Laura M. Wagner, Lucy Ward, Rosita M. Whalen, Shirley H. Zimmerman

Establishing a Hot Lunch Program—Warren B. Blatt

Guidance—Helen S. Buck, Edna Feich, Elizabeth Millard

Music Fun—Alta Newcomer

Permanent Record Card—Arthur E. Schaeffer

Primary Seat Work—Anna L. Hoffman

Report Card Suggestions—Willi H. DeTurck

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Visual Aids—Mrs. Evelyn K. Reitnauer

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EXETER

Guidance—Elda M. Rohn, Chairman

FLEETWOOD

Classroom Democracy — Frances Fegely, Ethel Heffner, Maude Stoudt

Our Tentative Progress Report for Grades 1-3 — Lillian Schlegel, Chairman

Report Cards—Esther M. Schlegel, Lillian Schlegel, Marguerite Stahler

Survey of Sick Leave Benefits in Fifty Pennsylvania School Systems—Mrs. Arnold D'Blasio, James P. Knoll, Marguerite Stahler

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Elementary Seat Work Unit—Mildred A. Boyer, Pauline W. Davis, Marguerite M. Frey, Mabel V. Gulinello, Ambrose B. Hess, Ellen M. Maderia, Florence G. Merkel, Grace L. Rothermel, Sadie S. Rothermel, Hazel L. Trafford, Lucy H. Ward

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Primary Seat Work—Mae Hartman, Mrs. Virgie Lamm, Hattie Levine, Mrs. Hannah Rank

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Character Education through Guidance—Alice M. Strunk

Child Guidance, Grade 3—Ruth Ash

Guidance in the School Program—Margaret V. Fessler

Guidance Report, Grade 2—Elsie S. Michener

Guidance Report, Grade 4—Anna Stout Tobias

Personality Development—Kathryn S. Kutz

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WEST HAMBURG

Seat Work Activities, Grade One, Rosita Whalen; *Grade Two*, Esther E. Kistler; *Grade Three*, Marion Bryner; *Grade Four*, Annabelle Schofield

WEST READING

The Classroom as a Laboratory in the Modern Elementary School—Mrs. Patricia Bare, Mrs. Ida Blatt, Blanche Hemmig, Mrs. Dorothy Lamm, Mrs. Susan Ludwig, Alice Rothenberger, Mrs. Ellenora Rhoads

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West Reading Elementary School Studies Program (Chart)—revised February 1948.—Elementary School Faculty

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Learning to Live and to Work Together—Mary E. Kramer

Seat Work—Emma W. Bicher, Annie L. Eberly, Laura M. Snyder, Laura M. Wagner, Shirley Zimmerman

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ALTOONA

The Classroom Teacher Studies Her Pupils—Kathryn Burkholder

Developing Work Skills—Mowrie A. Ebner

Handbook of Standard Practices Elementary Schools—Clara E. Cockerille, Harry L. Kriner, Ethel M. McCormick

Letter to Teachers—Harry L. Kriner

Making Use of Community Resources—Mary E. Crist

BLAIR COUNTY

General Suggestions and Procedures for the Daily Schedule of Pennsylvania—Mrs. Charlotte Adams, Wilma Burnshire, Mrs. Patricia Butler, Mrs. Gail Fagley, Mary Jane Foster, Mrs. Ruth McDowell, Mrs. Louise Miller, Mrs. Violet Rankin, Mrs. Georgiana Weller

BLAIR COUNTY—AREA 2

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BLAIR COUNTY (COMMITTEE OF THE NORTHERN AREA OF BLAIR COUNTY)

General Suggestions and Procedures on the Techniques for Exceptional Children—Mrs. Eleanore Ammerman, Mrs. Mildred Ferguson, Margaret Hutchison, Kathryn Hynick, Leona Isenberg, Eunice Manley, Mrs. Margaret McCartney, Mrs. Margaret S. Meek, Harriet Miller, Mrs. Gladys Shaner, Mrs. Cora Shannon, Mrs. Erdean Shirk, Thella Slick, Mrs. Helen Smeigh, Mrs. Alice Veach

ROARING SPRING

Report of Curriculum Revision Work by the Roaring Spring Elementary School—Mrs. Belva Bartges, Margaret Carper, Sara Hoover, Mrs. Nina G. Kramp

Bucks County

BRISTOL TOWNSHIP

The Emotional Needs of the Pre-School Child—Mrs. Glenda C. Glassmire

The Exceptional Child in the Classroom—Reba Corn, Mrs. Mary H. Kates, Anne Kirby

Readiness in First Grade (Reading and Number) — Martha Stief, Chairman

Report to Parents—Mrs. Susanna Ellis, Ethel Morgan

Reports of Progress—Anna Kirby

BUCKS COUNTY

Helping Your Child Get a Successful Start at School—Dr. Genevieve Bowen, Mrs. Ella Overpeck, Adele Ciriacy

BUCKS COUNTY, AREA III

Workbook Evaluation—Alma Campbell, Mrs. Marian Fritz, Mrs. Florence Hager, Mrs. Margaret Seylar, Mrs. Jeanette Woodroffe

LANGHORNE-MIDDLETOWN DISTRICT

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Sample Report Card

LOWER MAKEFIELD TOWNSHIP

Audio-Visual, Kinesthetic Aids, Grade 4—Mrs. Dorothea Lummis

MILFORD TOWNSHIP

Report Cards—Fred Fegley, Chairman

NEWTON-RICHBORO DISTRICT

Assembly Programs—Mildred Eisle, Chairman

PENNDDEL BORO

Classroom Environment—Nellie Main, Chairman

SELLERSVILLE-PERKASIE DISTRICT

Report Card—Ruth Brungard, Chairman

TINICUM TOWNSHIP

School Equipment and Environment—Mrs. Harriet Fabian,

Tyson Geiss, Mrs. Ella Overpeck, Mrs. Elsie Roach, Eleanore Wittig

WEST ROCKHILL TOWNSHIP

Report Card—Mrs. Agnes Reed, Chairman

Butler County

SLIPPERY ROCK STATE TEACHERS COLLEGE

Classroom Living and Management—Isabel C. Anderson

Curriculum Revision, Grades 4-5-6—Wm. W. Beatty, Margaret Gruver, Ruth I. Smith

Curriculum Revision, Individual Report—Beatrice Erickson

Help Direct America's Future (Laboratory School Bulletin)

Helping Children Work Alone—Susie M. Bellows

Independent Work Periods—Hazel Grubbs

Your Child and School—Susie Bellows, Beatrice Erickson, Hazel Grubbs, Dr. Emma Heard, N. N. Weisenfluh

Centre County

CENTRE COUNTY

Attendance and Achievement Record (sample)—Irene Russell

THE PENNSYLVANIA STATE COLLEGE

Elementary Committee—The Pennsylvania Workshop, Part Three—July 2-August 10, 1945

Report of Elementary Education Group—The Pennsylvania Workshop—1946

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An Introduction to Integrated Teaching—G. A. Stetson

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Bibliographies of Materials for Special Holidays—sent in by Frances Hobbs

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CLARION COUNTY

Planning for Curriculum Revision—Fred E. Miller, Harry P. Weast

Clearfield County

CLEARFIELD BORO

Characteristics of a Good Program

Committee on the Daily Program—Mrs. Irene B. McGonigal, Chairman

First Grade Entrants—Laura John, Chairman

Report Card Revision—Francis Black, Mrs. Ida Cowder, Edna Froyd, Howard L. Kuhns, Lyn Wallace

Report of Committee on Practices Relating to Entrance of Children in the First Grade—Mrs. Hannah Dunlap, Laura John, Mrs. Rebecca Smith

The Role of the Teacher

DuBois

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LAWRENCE TOWNSHIP

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Home Work

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Recommendations for the Pupil Report Card—Elizabeth O. Ammerman, Hilda L. Bartley, Louise Johnson, Hazel Stuck

Should Teachers Continue with Pupils—Ollie Moore, Mrs. Nina Ogden

Values of the PTA — Mrs. Virginia Krumbine, Marian Schenck, Mrs. Lillian Shaffer

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CRAWFORD COUNTY

Administrative Organization for Elementary Schools—C. F. Adamson, F. B. Peters

Arranging Room and Daily Schedule for Effective Work — Mrs. Gertrude Anderson, Mrs. Ruth Hollabaugh, Mrs. Marian McDaniel

Brief Outline Courses of Study—1943

Final Report of Report Card Committee—Violet Atkinson, Helen Bennett, Margaret B. Denda, Ethel Hamilton, A. C. Huntley, Edith James, Pearl Mawhinney, Robert McCracken, Floyd B. Peters, J. C. Prindle, E. W. Rohleder, Lela Slingsluff, Edward Spence, Blanche VanCise

Mimeographed Materials from County Office — Floyd B. Peters

Report Card (sample)

The Distinctive Characteristics of a Modern Elementary School—Floyd B. Peters

TITUSVILLE

Social Behavior—Mary Besselman, Helen Kendall, Olivia Kerr, Mrs. Craytin Lundberg, Dorothea Roggenkamp, Frances Schoppert

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CARLISLE

Report of Citizenship Committee—Eva Baty, Ann Bringman, Peggy Ellis, Helen Eyster, Frank Hair, Elizabeth Heberlig, Mary Hoy, Helen Kelly, Luella Robertson, David Shoap, Laura Varner

SHIPPENSBURG STATE TEACHERS COLLEGE

Creating a Desirable Emotional Environment in the Schoolroom—Ruth R. Crouch

Inferiority Complex—Rose Rightnour

Meeting the Needs of Superior Children—Evelyn M. Orner

Promotion Policies—Kathleen Trostle

Pupils' Reports—Elizabeth Group

The School's Part in Changing Behavior—Arline Beucher

Significance of Withdrawing Behavior—Alma Wert

Dauphin County

HERSHEY

Handbook for Parents—A. Sterling King

Pupil Adjustment in the Elementary School—Anna O'Toole

Statement of Organization, Kindergarten through Sixth Grade—Raymond H. Koch

A Unified Curriculum for the Mentally Retarded—Louise Knecht

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ALDAN

Primary Hand Book—A Book of Information for Parents of Primary Children—Isabel M. Baker, Gladys O. Davis, A. Jean Gamble, Frances M. Rutter, Lelia M. Stauffer, O. R. Wagner

CHESTER

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LANSDOWNE

Audio-Visual Education—Miss Byler, Miss England, Mrs. Graham, Miss James, Mr. Kleckner, Mr. McClure, Miss Ross, Miss Rotunda, Miss Sheaffer, Chairman

Manual for Teachers, 1943-44—Carmon Ross

The Teachers Manual—Supplement Number Two—Lansdowne School District

MARCUS HOOK

Report Card Revision — Marie Acker, Edith Cooper, Ruth Fulmer, A. Rebecca Myers, Virginia Speaker

NORWOOD

Handbook containing Philosophical Considerations, Regulations, and Other Information Pertinent to the Education of Youth

Planning the Elementary School Program in a Post-War Era

UPPER CHICHESTER TOWNSHIP

Report Card—submitted by David A. Johnston

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ELK COUNTY

Character Building—O. G. F. Bonnert, D. R. Thompson

Rating Scale for Judging Teachers-in-Service

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CORRY

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ERIE CITY

Calendar Plans—C. Herman Grose

Elementary School Library Service—Helen E. Rilling

Handbook for Principals and Teachers, 1947—C. Herman Grose, Frank M. Miller

Information Folder for New Teachers and Visitors to Our Schools

Primary Course of Study, Grades 1-3, 1944 — Elizabeth Bierley, Helen Burchfield, Alice Chambers, Thora Davis, Margaret Donovan, Margaret Driscoll, Helen Fisher, Marion Gardner, Grace Howard, Ruth Kearney, Gladys Liljenberg, Laura McCormick, Evelyn Reynolds, Bertha Struchen, Ethel Wetherald, Ann Wilkins

Report of Committee on Instructional Needs

Teacher's Rating Score Card—Ann L. Wilkins

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Organization of Discussion Group

Indiana County

INDIANA

Curriculum for Third Grade—Mabel Brown, Dorothy Fleming, Helen Glassford, Annabelle Ortner

Curriculums for Kindergarten and Grades 1-6—Martha Bee, Margaret Cummins, Alice H. Davis, Margaret Hartsock,

Myrtle Hesse, Thalia Long, Margaret McCormick, LaRue McCullough, Gladys McGaughey, M. Ella Moore, Carol Moorhead, Mary I. Rankin, Marie Reep, Sara Roberts, Virginia Varner, Gertrude Walker, Meredith White, Helen Wilden

Public Relations

Lackawanna County

Lackawanna, Wyoming, and Susquehanna County Course of Study—Thomas Francis, Edgar Frear, Frank Frear, Edwin Kerhli, Robert M. Northup, Lester B. Squier, Wayne Webster

SCRANTON

Course of Study, Grades 1-3—Angela Blewitt, Regina Brady, Gerald Coyne, Ruth Davis, Martha Phillips, Ruth Phillips
Course of Study, Grade Six—Supervisors and teachers of sixth grade

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EAST DONEGAL TOWNSHIP

Favorable Physical Environment for the Elementary School—Alva G. Bender, J. W. Bingeman, Ralph E. Coleman, Frances A. Duffy, Susanna H. Easter, Anna Mae Eby, Ruth N. Eby, Alma L. Grebinger, Grace Henderson, Mae R. Hicks, Rhoda N. Longenecker, Lily E. Martin, Sarah H. Mischlich, Romaine E. Weigle

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Record of an In-Service Teacher Growth Project in Reading Problems as Developed in Lancaster County Schools—S. June Smith
Report Cards—M. W. Brandt, Durell A. Hollinger, Ella H. Snavely, LeRoy G. Weinhold
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Improving the Unit Through Teacher-Pupil Planning and Evaluations—Nathan C. Schaeffer School Faculty
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The School's Use of the Community—Marion Althouse, C. W. Bucher, Esther M. Martin, Marion D. Miller
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WEST HEMPFIELD TOWNSHIP

Recommended Report Cards for Rural Schools—West Hempfield Twp. Teachers

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Report of Study on Bulletin 233-A—Elementary Teachers of West Lampeter Twp. Schools

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ALLENTOWN

Community Chest Activities in the Elementary Schools—Mrs. Eleanor S. Bartholomew, Lydia Carapella, Alice Darrohn, Margaret Fenner, Anna B. Foreman, Josephine F. Grainger, Margaret Hittell, Mary Krommes, Mary Rausch, Elizabeth Reed, Elizabeth Trainer, Mrs. Mildred F. Wiegner

Continuous Growth Theory Records and Reports—M. Emory Barner, Laura Bechtel, Beatrice Bennett, Margaret Fenner, Josephine Grainger, Dorothy Hartman, Florence Kistler, Charlotte Krause, Mary Lichty, Ellen Nicholas, Mary Rausch, Elizabeth Reed, Charlotte Reppert, Jacqueline Shaffer, Amos Skiles, Ezrine Snyder, Robert Unser, Dorothy Weaver, Catherine Weinsheimer

Curriculum News Letter—Allentown School District Curriculum Department

Meeting Individual Needs—William G. Kleckner, Mabel H. Lilly, Florence E. Mock

Our Children at School—Fred W. Hosler

The Panel as a Means of Developing Better Community Understanding—Donald D. Reber

The Pupil's Attitude toward His Report Card—Linda Wilson
Reactions on Report Cards—George Erie

Reports of the Professional Workshop Committee, 1947

Subject Matter Content Outline—Revised Edition, 1946—Grace Bachman, Magdalene Clous, Mrs. Claudine D. Davies, Nellie Edwards, Mrs. Anna L. Elverson, Margaret Fenstermacher, Frances Hartman, Miriam Heckman, Mildred Henry, Ezrine Hock, Edna M. Howells, Mrs. Louise F. Keiser, Florence Kistler, Pearl Krevsky, Mrs. Mabel H. Lilly, Grace McKee, Ellen Nicholas, Davida Ratcliff, Martha Reed, Florence Roth, Hanna Roth, Mrs. Esther R. Ruppell, Mrs. Louise W. Scheirer, Mrs. Marjorie M. Schmoyer, Lillie Thorman, Evelyn Unangst, Mrs. Robert Unser, Ruth Wahrmann, Mrs. Mildred F. Weigner, Emma Weirbach, Katherine Yundt

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Understanding the Child—Emory Barner, Hazel Bittenbender, Glenna V. Butler, Chester J. Frantz, Dorothy Hartman, Frances Hartman, Miriam M. Heckman, Mary Helfrich, William Kleckner, Ruth Knecht, Mae E. Loeb, Effie Jean Patterson, Davida Ratcliff, Mabel Rosenberger, Amos Skiles, Mary Turczyn, Robert Unser, R. Lorraine Utt, Mildred F. Wiegner

COOPERSBURG-LOWER MILFORD

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Democracy's Mirror—Thomas W. Watkins

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SLATINGTON

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How Can We Help a Slow-Reader?—Mrs. Ellen J. Anthony, Florence A. Sell

Objective: To Improve the Accuracy of Comprehension—Pearl M. Banks, Mrs. Adele Kern

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Report of Audio-Visual Committee—Hilda Morgan, chairman

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LUZERNE COUNTY

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McKean County

McKEAN COUNTY

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GROVE CITY

Elementary Schools Course of Study—Grade 1: Miss Bolton, Miss Hall, Miss McCoy, Miss Philpott; *Grade 2:* Miss Elder, Mrs. MacRoe, Miss Slater; *Grade 3:* Miss Montgomery, Miss Ray, Miss Seiple; *Grade 4:* Miss Noble, Miss Snyder, Miss Wilson

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EAST STROUDSBURG STATE TEACHERS COLLEGE

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ABINGTON TOWNSHIP

Criteria for Evaluating Courses of Study—J. O. Carson, Paul J. Cook, M. B. Messinger, Charles E. Poole, Eunice Winslow

Free Schools in a Free Land—Floyd Boyer, J. O. Carson, Marion F. Cline, Paul J. Cook, Carolyn Cutting, T. Russell Frank, Eugene B. Gernert, Evelyn Haldeman, Frederick W. Hill, Frances K. King, Elmer A. Lissfelt, Grace F. Lockard, M. B. Messinger, Lois Miller, Mary Rodney Miller, Emma P. Moyer, Charles E. Poole, Roland C. Ritchie, Charles E. Roberts, Stanley L. Shorb, E. U. Smiley, Charles E. Sohl, Marjorie Sparks, W. Eugene Stull, Nathan S. Trump, Gertrude L. Turner, Esther Twining, Sherman P. Uhler, Ronald R. Welch, Lillian M. Wickersham, J. Shaylor Woodruff, Ralph M. Wright, Zaidee G. Wyatt

Organization for Curriculum Improvement Program—J. O. Carson, Paul J. Cook, Matilda Davis, Neva Deuel, Florence A. Flesh, T. Russell Frank, E. B. Gernert, Jesse Haefner, Evelyn Haldeman, Gertrude Hertzog, Dorothy Irwin, W. Edward Krah, J. Ira Kreider, Elmer Lissfelt, Leah H. McLarren, M. B. Messinger, Lois Miller, Emma P. Moyer, Charles E. Poole, Charles E. Sohl, R. R. Welch, Raymond H. White, Lillian M. Wickersham, Eunice Winslow.

Philosophy of Education—J. O. Carson, T. Russell Frank, Dorothy Irwin, J. Ira Kreider, Elmer A. Lissfelt, Mary Rodney, Charles E. Sohl, Ronald R. Welch, Raymond H. White

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Bethlehem—Carrie Mack

British Isles—Grace R. Beck, Laura Benfield, Margaret Coyle, Ruth E. Edelman, Agnes M. Guy, Ruth R. Jones, Mary C. Keefe, Ruth Trauger, Mabel Trumbower, May Watts

Colonization—Mae Fry

Forest Indians—Catherine Strasburg

Norway—Sara Barton, Marion Buck, Mabel Compton, Mary M. Degnan, Miriam Early, Blanche I. Krause, Jeanette MacEwen, Florence Madalena, Mary Phillips, Hilda M. Smith, Ruth Spillberg

Poland—Mildred C. Krauss

Russia—Wave T. Kocher, Louise D. Lucia, Sara E. Sprecher

Transportation—Geraldine B. Caffrey, Eleanor E. Casey, Eileen Fielding, Mary Gallagher, Gertrude Mowery, Miriam L. Weber

The United States—Anne Adams, Della S. Bader, Anne Barthold, Alice A. Bigot, Pauline Getz, Carrie E. Lewis, Margaret McCoy, Viola de Meglio

Westward Movement—Rose Mekeel

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PERRY COUNTY

Preliminary Report of a Study of the Curriculum in the Public Schools of Perry County: Part I—A Survey of School and Community—Mrs. L. Miles Bower, Luke Buffenmyer, Grayce Clouser, Vernon Dessenberger, Sara E. Gantt, Eugene Heine, Paul F. Hurley, William C. Koons, Mrs. Frances Patterson, Willis E. Pratt, H. Leo Rice, M. Luther Scott, Jesse H. Snyder, Walter M. Straw, Ralph C. Swan, John Yohe

Philadelphia County

PHILADELPHIA

The Improvement of Personnel Relations in Public Education (Workshop Bulletin—No. 6, July 1942)—School District of Philadelphia

Planning a Visit to the Better Philadelphia Exhibition—John Mladjen

Youth Shares in Planning a Better Philadelphia—Harry Orth

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BUTLER TOWNSHIP

Classroom Living and Management—Ella Coyle, Catherine Dougherty, Mrs. Helen Gradwell, Helen Grisconis, Mrs. Halkyard, Patrick Hart, Ronald E. Kehler, Anne Kenney, Irene M. McDonald, Lucy McDonald, Catherine Monaghan, Tillie Monaghan, Patrick Murray, Ella G. Reddy, Florence Reddy, Rosemary R. Stedman, Mrs. Blanche Verbish, Hilda M. Walsh

MAHANOEY CITY—MAHANOEY TWP.—LINCOLN SCHOOL—RUSH TOWNSHIP

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POTTSVILLE

Audio-Visual Instruction Materials for Grades 1-6—Mae E. Brennan, Grace Cookson, Mrs. Helen Ehlers, Constance Golamis, Martha Greenwood, Emily Grey, Rose Marie Haley, Grace Heffner, Katherine Heffner, Caroline Henry, Agnes Holahan, Mrs. Mary Honicker, Mrs. Ada Long, Rhoda Lukens, Mary McCormick, Sadie Weber, Angeline Weller, Mildred Wise, Lottie Withers

Supplementary Material—Literature for Grades I-VI—Mrs. Mary Allen, Mary Bartolet, Violet Davenport, Mrs. Sara DeLong, Mrs. Helen Gillars, Evangeline Golamis, Georgine Gottschall, Margaret Harding, Mildred Hermann, Mary Jenkins, Mary Louise Kingsburg, Mrs. Gaynell Kline, Mrs. Eleanor Kock, Mrs. Ruth May, Elizabeth Nagle, Elizabeth Reese, Emily D. Shimer, Marion Speacht, Mrs. Kathryn Wilson

TAMAQUA

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Visual Aids—Esther Hanlon, Kathryn Hegaty

Union County

LEWISBURG

Elementary School Evaluation Procedure—H. E. Stover

Study of Lewisburg School Environment—Mary M. Arbogast, Mary E. Amer, Elizabeth Brooks, Leah A. Burns, Katherine Byers, Sarah H. Eyer, Sara Holter, C. L. Hunsicker, Elizabeth R. Ingwers, Ruth A. Kerstetter, John A. Long, Jr., Josephine Rhinard, Marion H. Smith, H. E. Stover, Gladys W. Werner, Pauline B. Wetzel, Carolyn C. Whitman

Warren County

WARREN BOROUGH

Horizontal Objectives—Edith Berkman, Margaret Corbin, Viola Flowers, Marie Gaghan, Mrs. Helen Gary, Dorothy Lincoln, Frances Peterson

The Objectives of the Warren Public Schools—Carl E. Whipple

Vertical Objectives. Committees—*Art*: Margaret Corbin, Mrs. Gerda Laurence, Elizabeth Ven Luvanee; *Commercial*: Patricia Johnson, Warren Miller, Jeane Steele; *Foreign Languages*: Earl Bowman, Janice Markley, Jean Spencer; *Health and Physical Education*: Viola Flowers, Harry Hutchings, Pauline Neuman, Mrs. Alice Turner; *Industrial Arts and Home Economics*: Arlyn Dunham, Hazel Finley, Carlton Kurtz, Mrs. Madelyn Selden; *Language Arts*: Lyell Carr, Mrs. Helen Gary, Frances Peterson, Marjorie Wertman; *Mathematics*: Floyd Bathurst, Marie Gaghan, Ruth Keep, Effie Paterson; *Music*: Edith Berkman, Mrs. Helen

Gary, Twila Hoover; *Science and Nature Study*: Helen Handy, Herbert Harris, Guinevere Knapp, Evelyn Swanson; *Social Studies*: Margaret Fleming, Meade Hinderliter, Dorothy Lincoln, John Refecliff

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Brief Outline Courses of Study for Elementary Schools, 1945

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WAYNE COUNTY

Wayne County Addenda for 1944-45, 1946-47, 1947-48 — County Office Staff

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NEW KENSINGTON

Elementary Curriculum for the Maladjusted Child—Mrs. Helen Alter, Gladys Hagerman, Irene Hopf, O. W. Johnson, Beatrice Klingensmith, Ann Ludwig, Ann Lusk, Lillian Miller, Jean Mains

Materials on Promotion Policy—Elizabeth Allshouse, Grace Caldwell, Ruth Graff, Betty Hayes, Madeline Heighley, Della Mins, Mrs. Loy McConn, Bertha Zillmer

WESTMORELAND COUNTY

Opening School Instructions

Wyoming County

WYOMING COUNTY

Wyoming County Schools (October 1947)—Edwin H. Kehrli, Lester B. Squier

York County

WEST YORK BOROUGH

A Manual and Course of Study—A. H. Martin and teachers

YORK CITY

Beginning the Year's Work—Victoria Lyles

Current Practices in Organization and Supervision of City School System—Arthur W. Ferguson, Victoria Lyles

Good Manners for Everyday—Alta Bell, Mrs. J. H. Dixon, Mary Gleitz, Mildred Gundel, Ruth A. Hallock, Clarence Hodgson, Louise Johnson, Theresa M. Johnson, Fannie D. Kauffman, L. Jeanette Krone, Margaret S. Lewis, Anne Maxwell, Ruth E. Oakes, Sara Ross Smith, D. Jennie Stine, H. A. Stough, Joy Suiter, T. Goldie Sweeney

Handy Reference Bulletin—A. W. Ferguson, Victoria Lyles

Quotations from "Organizing the Elementary School for Living and Learning"—submitted by Victoria Lyles

Some Aspects of the Good School Classroom—Victoria Lyles
The Teacher-Education Visitation Project of Pennsylvania—Victoria Lyles

Unidentified

Principles of Elementary Education—H. G. Lull

Report of the Committee on Report Revision—Frances J. Black, Chairman

A Suggested Course of Study for First Grade

LANGUAGE ARTS

Allegheny County

ALLEGHENY COUNTY AND PITTSBURGH AREA—Helen M. Brindley, Gladys P. Cannon, Ruth Elliott, Alida Erickson, Earl O. Liggitt, Margaret E. Maloney, Charles E. Manwiller, Rose B. Mickulonic, Nelle O'Rourke, Carolyn D. Patterson, Thelma Waddle, Doris H. Wilson:

Handwriting Skills
Language Arts Skills
Reading Skills

ALLEGHENY COUNTY AND PITTSBURGH AREA

Developing Personal Tastes in Literature—Lois S. Blesh, Virginia Chase, H. S. Irons, Melrose Kinsey, Elizabeth McDonald, James Snoke

McKEES ROCKS

Course of Study in Reading, Grades 1-8—Hazel Black, Annette Brenner, Alice Ebersole, Julia Elswick, Mary Faherty, Bertha Gerstner, Catherine Hefferon, Anna Marie Roland, Viona Rowe, Agnes Veblun

Course of Study in Spelling, Grades 1-7—Julia A. Elswick, Ella Herskovitz, Nelle O. Johnston, Helen L. Kolsun, Alice E. Riedel, Cecil S. Schwartz, Edith Zeligson

Remedial Work in Reading—Hazel Black, Elise Jackovac, Bertha Johnson, Agnes Veblun

PITTSBURGH

Guidance for the Classroom Teacher in Presenting Applied Manuscript Writing for the Primary Grades—Henry H. Hill, Marie Jacob, Louise Junker, Catherine Laird, Maude Lilley, Leila Wise

A Suggested Literature Program—Lois Blesh, Virginia Chase, Melrose Kinsey, Elizabeth McDonald

Bedford County

BEDFORD

Books Unit—6th Grade

Berks County

ALBANY

Spelling

BALLY

Creating Reading Desires

Reading Motivation

BECHTELSVILLE

Eighth Grade Spelling—Louis F. Upholzer

Teaching of Spelling in Grades 4, 5, 6—Alfred M. Brumbach

BERKS COUNTY

English

Handwriting, Grades 1-8

Reading—A. Genevieve Bear, Clementine P. Cope, Mrs. Eckenroth, Mrs. Frederick, Mrs. Hoffman, Esther W. Kline, Flossie M. Moyer, Helen E. Reber, Evelyn S. Risser, Mrs. Zoll

BIRDSBORO

Elementary English Curriculum

BOYERTOWN

Manuscript Writing

Reading Program

CENTER

Reading Motivation

DISTRICT

Course in English

HAMBURG

Grade Library

Study of English

HEREFORD

Third Grade Spelling—Mrs. S. Clara L. Bauer

KUTZTOWN

Grade Library

KUTZTOWN AND MILLERSVILLE STATE TEACHERS COLLEGES

Children's Books—Selected and Annotated for the Joint Committee

NEA-ALA—Sarah A. Beard, Aimee Draper, Elizabeth H. Gross, Priscilla Lantz

LONGSWAMP-TOPTON HOME

English Units

OLEY

First Grade Reading Readiness

PERRY

Reading Outline

ROBESONIA

Speech

ROCKLAND

Spelling

Teaching Spelling in the Primary Grades—Beulah E. Martz

RUSCOMBMANOR

Elementary Spelling—Mrs. Lillian Albright, Arthur Hill, Kirby Hill, Elwood Himmelberger, Mrs. Lillian Sehl, Mrs. Shade

SOUTH HEIDELBERG

Children and Books

Library

Unit — Oral English

SPRING

Elementary School Library

Reading

TILDEN

Spelling

WASHINGTON

Unit — A Letter Study

WINDSOR

Course in English

Blair County

ALTOONA

Children's Literature—Marian I. Lloyd

Correct Speech—Helen F. Frisch

Language Aids—Mary E. Reifsteck

A Language Curriculum for Grades 1-6—Grace Baker, Helen Brickley, Clara E. Cockerille, Evelyn DeGabrielle, Ada Glunt, Thelma Foor, Leslie Foose, Reba Franklin, Katharine Gettig, Kathryn Henry, Gwendolyn Hutchison, Louise Jamison, Dorothy Kling, Marion Lloyd, Gertrude Marks, Edwina Shope, Pauline Snyder, Evelyn Stiffler

Reading—Helen E. Hannum

Reading Problems—Julia M. Weber

BLAIR COUNTY

Report of Meeting Held for Year 1947-48 by Primary Reading Group, Blair County, Area No. 3

Bradford County

The Phonetic Bulletin—Irving T. Chatterton

Bucks County

BUCKS COUNTY

Reading, Grades 1-3—Grace Allebach, Olive Crouthamel, Miriam Moyer, Ruth D. Richert, Mrs. Olive Solliday

Workbook Evaluation—Mrs. Margaret Seylar, Chairman

BRISTOL

The Library Unit—Elva Cruse

BRISTOL TOWNSHIP

Literature—Leona Beck, Helen Bucher, Mrs. Mary Devine, Margaret Dooley, Kathryn Griffiee, Florence Lewis, Estella Rea

LANGHORNE-MIDDLETOWN DISTRICT

Reading, Grades 1-4—Grace Ehrlen, Carolyn Fox, Mary Fritz, Ruth Garner, Nellie Main, Mrs. Frances Westfall

NEW HOPE—SOLEBURY ELEMENTARY SCHOOL

Language Arts Outline, Grades 1-6—Mrs. Maude Cathers, Chairman, and whole elementary staff

Our Dictionary Corps—Mrs. Syndonia Mason

NEWTON-RICHBORO DISTRICT

Oral and Written English Skills, Grades 1-6—Ruth Hamsher

SPRINGFIELD TOWNSHIP

Language Arts, Grades 3 and 4—Mrs. Katharyn Buckley

Butler County

BUTLER

Course of Study in English—Grades 1-7—Sara Douthett, Johanna Frasier, Agnes Gregel, Lillian Heck, Dorothy Henderson, Bertha Hinchberger, Ada G. McElhaney, Alberta Sipe, Jane L. Stanley, Madge S. Trace, Roy W. Wiley

Course of Study in Eighth Grade English—Laura Boulden, Ellen Geyer, Elizabeth Murrin, Marion Stewart

Course of Study in Seventh Grade English—Johanna Frasier, Ellen Geyer, Anna MacKinney, Alice Vensel, Doris Zellefrow

SLIPPERY ROCK STATE TEACHERS COLLEGE

Language Standards—Emma Heard

The Pageant of Writing—Elsie Christie, Alice M. Dean, Lilian Griffin, H. A. Heintzelman, Phyllis Lindey, Ada Nixon, Edward Patnik

Sample Weekly Lesson Plan, Seventh Grade English—Matilda Bailey

Cambria County

JOHNSTOWN

Some Suggestions for Teaching Choral Speaking in Elementary Classes—Irene Barnes, Ethel Dixon, Agnes Exler, Betty M. Kunkle, Marion Masters, Jessie Morgart, Mabel Petriken, Margaret L. Schaefer, Salome Shaffer, Thora Theodore, Mary P. Young

Cameron County

CAMERON COUNTY

Curriculum Development—Spelling

Curriculum Development—Writing English

Phonics

Reading

Centre County

PENNSYLVANIA STATE COLLEGE

Improvement of Reading Instruction—Raymond C. Barney, Lois Bird, Frank Compagna, Gerald V. Critchlow, Virginia Cunningham, Alice Louise Davis, Earl K. Stock

Chester County

COATESVILLE

Course of Study in English, Grades 1-6—Anita Anderson, Elda Bartine, Priscilla E. Cuff, Evelyn B. Gregg, Virginia Hartmann, Ada Holmes, Margaret B. Hurlock, Mary M. Irwin, Hilda M. Kent, Helen M. Marshall, Mabel McMillen, Marguerite G. Moore, Edna M. Pennington,

S. Alice Schrack, Thelma Shores, Edrie E. Wagner, Kathryn L. Wilde

Reading Program at the Adams Community School—T. J. Anderson

Language Arts—Lillian Booker, Alma Buchanan, Betty Davis, Martha Heim, Helen Marshall, Janet Miller, Laura Spencer

WEST CHESTER

Skills, Grade 6, Unit 1

Clarion County

CLARION

Phonics and Speech Correction—C. A. Conley

Clearfield County

CLEARFIELD

Developing Personal Tastes in Literature—Betty Brown, Janet Gustafson

Evaluating the Oral English Lesson

Nonreading Program in Grade One

Phonics in the Spelling Class

Columbia County

COLUMBIA COUNTY

Manuscript Versus Cursive Writing—Teachers of Madison and Greenwood Consolidated Schools, Mrs. Martha Clemmons, T. A. Williammee

Crawford County

CRAWFORD COUNTY

Meeting the Pupil's Needs in Reading—Ruby C. Brown, Irene B. Hughes, Elma Mayhard, Verda Maynard, Beulah E. Muir, Viola E. Tubbs, Mildred K. Upton, Frances I. White

Report of Literature Committee No. 1—Wilda Bodisch, Mildred Bohrer, Bessie Check, Leta Heverly, Anna Money, Helen Rea

Report of Literature Committee No. 2—Elizabeth Bunce, Lila Carr, Lucille Firth, Mildred Halfast, Marie Pattison, Barbara Thompson, Mildred Weidner

The Teaching of Middle Grade Reading—C. F. Adamson, F. B. Peters

MAPLE GROVE SCHOOL

Writing Project—Mildred Hollabaugh

MEADVILLE

Remedial Reading, Grades 1-6—Mrs. Claudia Altenburg, Dorothy Buchanan, Carolyn Corey, Mrs. Josephine Dickey, Harold Fleck, Helen Fordyce, Luella Graham, Mildred Jenkins, Florence Joyce, Irene McDaniel, Mrs. Dorothy Pyle, Marian Smith, Mrs. Rouene Smith, Elizabeth Stadlander

The Teaching of Reading—F. B. Peters

Cumberland County

CAMP HILL

Improving the Reading of Slow Learners—L. J. Kline and seven teachers

SHIPPENSBURG STATE TEACHERS COLLEGE

Language Activities in the Primary Grades—Anne Bringman
Oral Expression in English, Primary Grades 1-3—Florine McCleary

Pets—Mrs. Eleanor Hoeh

Phonics—Mrs. Ruth Leshner, Evelyn Omer

Reading Readiness—Ruth Edna Hege, Mrs. Mary Frances Myers

Reading in the Sixth Grade Where Circulating Texts Are Used—Mrs. Ruth Crouch

Reading Interests of Elementary School Children—Mrs. Adele H. Mitchell

Teaching Language Skills in the Upper Elementary Grades—Mrs. Mary W. Miller

Dauphin County

HERSHEY

Suggested Course of Study in English in the Hershey Elementary School

Erie County

ERIE

Committee Recommendations for Choice of Dictionaries for Grades 3 and 4—Ann L. Wilkins

Growing Up in Writing—Kathryn Chambers, M. Virginia Fleming, Beverly Gepner, Camilla Lehan, Ella O'Brien, Mayme Sitter, Margaret Webb, Ann L. Wilkins

Handwriting Committee Reports, February, 1946—Ann L. Wilkins

The Handwriting Program—M. Virginia Fleming

More Reading Readiness, Grade 1—Helen Carpenter, Margaret Driscoll, Mabelle Holland, Elizabeth Kearney, Ella O'Brien, Leota Pegg, Violet Schutte, Ann L. Wilkins

Speech Improvement Handbook for Elementary Schools—Laura A. Durbin, Isabel Glass, Ruth Ottaway

Writing Is Fun—Ann L. Fleming, Eva Guthrie, Gladys Liljenberg, Hilda Meyer, Evelyn Reynolds, Wanda Swiecki, Ann L. Wilkins

Fayette County

FAYETTE COUNTY

Basic Instruction in Third Grade Reading—Mary Kennedy, Steve Labutta, Elizabeth Wilson, Retha Wise

Lancaster County

LANCASTER COUNTY

Book List for Pupils Who Have Low Reading Levels—Lancaster County Reading Workshop

Libraries, Facilities in Terms of Traveling Libraries—Luella M. Mellinger, Chairman

Libraries, Where a Central Library Is Possible—Laura E. Buller, Mary Coolidge, Mildred Haug, Harriet Weaver, Mildred Wolfe

Lawrence County

NEW CASTLE

English Course of Study, Grades 1-12—Frank L. Burton, M. Edythe Dunlap, Ellen M. Geyer, Frances M. Haydon, L. Ruth Lewis, Helen A. Maxwell, Frances McClaren, Sarah E. Patterson, Margaret E. Reeher

Lebanon County

LEBANON

Report on Penmanship—Elizabeth Spayd

Report of Phonetic Analysis—Caroline Fisher, Clara A. Light, Marie Mills, Etta M. Reidel, Ruth Stohler, Mary Sullivan

Lehigh County

Elementary Conference Curriculum—Language Arts Group

Luzerne County

FORTY FORT

Course of Study in Penmanship, Grades 1 and 2—C. Pettebone

English Outline

Reading Readiness Report—Sara Lewis, chairman

LUZERNE COUNTY

Remedial Reading Instruction—Inez Husted

WILKES-BARRE

Reading, First Grade—Eleanor Hughes, Elfed H. Jones, Mrs. Irene Pallman

Lycoming County

WILLIAMSPORT

Manual for the Teaching of Reading—Frances O. Smith

McKean County

BRADFORD

Literature—Reading—Magdalene LaManna, Bertha Maloney, Lillian Tozer, Helen Weaver

Mercer County

GROVE CITY

Course of Study on Adverbs, Grade 7—Eleanor Riddle

Monroe County

EAST STROUDSBURG STATE TEACHERS COLLEGE

Basic Reading Skills in the Third Grade—Myrtle Faust

Developing Personal Tastes and Abilities Through a Book Club in Fifth Grade—Josephine B. Kerns

Reading to Develop Personal Tastes and Abilities—Lois V. Anderson, Josephine B. Kerns, Mary Jane Reid

A Sixth Grade Weekly Unit in Spelling—C. W. Dupee

The Use of Magazines in the Fourth Grade—Helen Krug

POCONO TOWNSHIP—TANNERSVILLE

Outline for Course of Study in Reading for Grades 1 to 6—Ruth Bryson, Florence Mitchell, Helen Shick, Gladys Suse

Reading—Mrs. Gladys B. Seese, Chairman

Montgomery County

BRIDGEPORT

Reading Program—Patsy Burns, Mrs. Mary Carfagno, Mrs. Ruth Huth, Helen Jarrett, Florence Lex, Mary McCarthy, Mrs. Catherine Nichols, Eileen O'Brien, Clare Slenker, Mrs. Catherine Turley, Isabel Wilkinson

CONSHOHOCKEN

Language Arts—Jean Bergey, Betty Clark, Pauline Johnston, Vera Killmer, Mary Megargee, Bessie D. Nace, Ruth Staley, Jennie Tyson

MONTGOMERY COUNTY

Handbook for the Teaching of English in the Elementary Schools of Montgomery County—Developed by a Committee of Elementary Teachers

Remedial Reading for Retarded Readers in the Intermediate Grades—A. M. Kulp

POTTSTOWN

Stories and Poems No Youngster Should Miss—F. M. Haiston

Northampton County

BANGOR

Bulletin 9a—To Teachers of Third Grade English

Miscellaneous Curriculum Recommendations—Adalyne Duval, Gladys J. Finkbeiner, John Foulkes, Elizabeth P. Jones, Emily Sandercook, Margery M. Traves, Edith M. Wolfe, Martha Zehner

Spelling for Grades 3, 4, 5, and 6

BETHLEHEM

General Recommendations—Harold Barthold, Rosalind W. Croman, Ira M. Frankenfield, John W. Hedge, Franklin Odenwelder, Robert R. Rinker, Chester W. Sames, John Snyder, John Walper

READING UNITS:

Arithmetic, Telling Time and Making Clocks, Grade 2—Reba F. Odenwelder

Circus, Grades 1 and 2—Catherine Barlieb, Dorothea Becker, Katherine Bishop, Blanche Brown, Elsie Erb, Martha Gerber, Mabel Herbein, Jane Morris, Marion Murray, Anne Wachter

Fairy Tales, Grade 2—Catherine Krause

Farm, Grade 1—Ruth Bjork, Esther E. Borda, Margaret Dunn, Rita McNerney, Kathleen Peterson, Ernestine Schussler, Grace Thompson

The Greenhouse, Grade 1—Blanche Leidich

The Grocery Store, Grades 1 and 2—Jennie M. Heilman, Dorothy P. Hildebrandt

Indians, Grade 2—Dorothea Becker, Katherine Bishop, Loretta Buck, Ruth Evans, Elizabeth Everett, Esther Leidich, Anne McGarr, Lee Sigel

Language Arts, Curriculum for Primary Grades—All the Elementary teachers in the Language Arts Program

Language Arts, Curriculum for Intermediate Grades—All the Elementary teachers in the Language Arts Program

Mexico, Grade 3—Mary Cosgrove

Nature Study, Grade 1—Josephine J. Huber

Norway, Grade 4, Socialized Recitation—Florence Madalena

Our Friends, the Firemen, Grade 1—Vera R. Weaver

Science, Grade 1—Alma Schlenker

Statement on Phonics

HELLERTOWN

Reading in the Primary Grades—William Dornblaser, Grace Flemming, Mrs. Annie Fluck, Margaret Kemmerer, Norraine Lapp

Northumberland County

SUNBURY

Letter-Writing Unit—Grace S. Beck

Philadelphia County

PHILADELPHIA

Philosophy and Objectives of English Instruction—Robert J. Adams, Louis Ballen, Alta Bard, Lillian L. Batchelor, Anna Beck, Sarah Berkowitz, William Blair, Robert Brown, Ernest A. Choate, Estelle Conroy, Flavia O. Ellis, Hilda Evans, Margaret Garrod, Geneva Gentel, Dora Y. Gilmour, Janet Gray, Louise Greathead, Rosemary Green, M. David Hoffman, Herman B. Kaufman, Thomas B. Larkin, Adelaide A. Lyons, J. E. Mason, Marion V. McCreight, Lenore McCullough, Rene I. O'Loughlin, Joan C. O'Neill, David G. Paul, David Simpson, Martha C. Stevenson, Frederick H. Stewart, Ruth Swoyer, Edward B. Thiele, Marion Young, Essie A. Zieber

Spelling and Handwriting Suggestions Stress Functional Approach—Louis R. Ballen

Schuylkill County

BUTLER TOWNSHIP

Study Project, Reading—Catherine Barrett, Ella Coyle, Catherine Dougherty, Mrs. Helen Gradwell, Helen Grisconis, Mrs. Mary Halkyard, Patrick J. Hart, Ronald E. Kehler, Anna Kenney, Irene McDonald, Lucy McDonald, Catherine Monaghan, Tillie Monaghan, Patrick Murray,

Ella Reddy, Florence Reddy, Mrs. Rosemary Stedman, Mrs. Blanche Verbish, Mrs. Hilda Walsh

RUSH TOWNSHIP

Outline of Course in English—Mae L. Heckler

SCHUYLKILL HAVEN

Report of Reading Committee—Edna M. Barr, Catherine R. Stauffer, Verna Wolfe

Spelling Committee Report—Bernice H. Badida, Emma C. Berger, Edith M. Emerick, Agnes M. Gray, Georgene E. Kantner

Tioga County

MANSFIELD STATE TEACHERS COLLEGE

Written Communication—Local Newspaper

Venango County

FRANKLIN

A Report of a Reading Experience—Eleanor M. Schill

Warren County

WARREN

Language Arts Objectives

Westmoreland County

NEW KENSINGTON

Intermediate Reading—Catherine Hoynoski, Dorothy Hoynoski, O. W. Johnson, Virginia Meadows, Stella Milko, Madge Schaeffer, Mary Weinel

Literature in the Primary Grades—Mrs. Anna Bowser, Kathryn Cope, Laura Fink, Evelyn Gerry, Dorothy Lange, Josephine Miller, Helen Stahl, Lydia Zilmer

Suggestions for Elementary Curriculum Revision, Personal Tastes—Literature in the Intermediate Grades

York County

YORK

Martin Memorial Library Annual Report for Children's Department, 1945—Janette Woolsey

Poems—Selected by Janette Woolsey

Report of Grade 1 Reading Committee—Rozella Baughman, Ruth R. Ensminger, Florence E. Gross, Laura M. Liggitt, Joy M. Suiter

Suggested Poems—Huber D. Strine

The York Elementary Schools Face Their Reading Problems—Victoria Lyles

Unidentified

Remedial Reading—Mary O'Brien, Myrtle Schaeffer

SOCIAL LIVING

(*Social Learnings, Geography, Natural Science, History, Civics*)

Allegheny County

ALLEGHENY COUNTY AND PITTSBURGH AREA GROUP

Bibliography for Elementary Geography Units—Sister Mary Bertrand, Sister Mary Louis

How Geography in the Elementary School May Contribute to the Behaviors Needed for Effective Citizenship—Sisters of Mercy

How History, Geography and Science Help the Child to Understand the Modern World Through Associated Learnings—Virginia Schauer, Zoe A. Thralls

Major Understandings in Study of Brazil—Sisters of Mercy, Sister M. Staneslaus

Objectives for Elementary Science—Martha Pye, Walter Weaver

Skills in Social Living—Helen M. Brindley, Gladys P. Cannon, Ruth Elliott, Alida Erickson, Earl O. Liggitt, Margaret E. Maloney, Charles E. Manwiller, Rose B. Mickulonic, Nelle O'Rourke, Carolyn D. Patterson, Thelma Waddle, Doris H. Wilson

Unit on Charity—Sister M. Gonzaga, Sister Mary Louis, Sister M. Williams

Unit on Charity—Sister M. Janice, Sister Mary Louis

Unit on Holland—Sister M. Jean Marie

Unit on Justice—Sister M. Gonzaga, Sister M. Joseph, Sister Mary Louis, Sister M. Patricia Marie, Sister Mary Peter

Unit on Obedience—Sister M. Laura, Sister Mary Louis, Sister M. Rita

CRAFTON

An Outline of Social Studies for the Primary Division—Ruth Elliott, Chairman

FOREST HILLS

The Social Living Program—Mrs. Audrey S. Graham

FORWARD TOWNSHIP

Birds—Grace Himmeger

Functions of a Democracy—Elsie Gburoski, Famie Harrison, Lucille McConnell, Mrs. Jessie Salzman, Lewis S. Warren

Using Encyclopedias in Units—Mrs. Mary Rossini DeCarlo, Mrs. Rispah Gallatin, Lois Graff, Mrs. Louise Harper, Mrs. Mary C. Harrison, Mrs. Alice B. Sitar, Elsie Tucker, Lewis S. Warren

MOUNT LEBANON

Geography—Course of Study for Fourth Grade

History—Course of Study for Fourth Grade

Science Curriculum Outline, Grades 4, 5, 6

MUNHALL

A Unit of Study in Social Living for Grade 1—Mrs. Hilda W. Hamilton

A Unit of Study Using the Pittsburgh District as Background, Grade 5—Mrs. Mary Atkinson, Mrs. Katherine Cosgrove, Cora Craig, Mrs. Lillian Gable, Mrs. Anna Imlay, Elizabeth Punton, Mrs. Carolyn Pursglove, Mrs. Ada Roche, Margaret Servie, Walter F. Weaver, Mary Wild

PITTSBURGH

Chanukah, Christmas Celebration—Mary M. Eakin

Condensed Outline as an Aid to Supervision and Instruction in Social Studies for Double Grades, Years 4, 5, and 6—E. A. Dimmick, Henry H. Hill, H. G. Masters, Hilda Noble

Down on the Farm—Dorothy B. James

The Family—Madeline Broderick

Public Relations Through Teachers of the Social Studies—Newsletter, December 1947, published by the Office of the Superintendent, Pittsburgh Public Schools

A Six-A Social Studies Unit in Intercultural Education—Margaret Maloney

Social Living in the Kindergarten and Primary Grades—Madeline Broderick, Mary Eakin

Some Nature Experiences—Irene Snyder

The Unit of Experience

ROSS TOWNSHIP

Amazonia—Virginia P. Schauer

Bibliography, Australia and New Zealand—Virginia P. Schauer

Bibliography on Mexico—Lyla B. Howe

Bibliography of Russian Books—Jean Lawrence

List of Books on China—Mrs. Hazel R. Duncan

TURTLE CREEK

Cumulative Chart of Skills and Abilities in the Social Living Field—Mrs. Beulah Lowden

WEST MIFFLIN

Knowledge and Planning in Teaching

WILKINSBURG

Child Growth for Democratic Living—Mrs. Rilla M. Sterling

The Social Living Field—Mrs. Rilla M. Sterling, Zoe A. Thralls

Beaver County

ALIQUIPPA

Animals—An Integrated Unit for the Primary Grades—compiled by the primary teachers of the Aliquippa Schools

Transportation, An Integrated Unit, Intermediate Grades—compiled by teachers of the Intermediate Grades of Aliquippa

Bedford County

BEDFORD BORO

Community Helpers, Second Grade

The Galloping Universe, An Integrated Unit for the Sixth Grade—Julia A. Bowers

The Grocery Store, An Integrated Unit Used in the Second Grade—J. Madeline Henrie

Mexico, Third Grade

Pueblo Indians, An Integrated Unit for the Third Grade—Henrietta H. Armstrong

Report of Social Living Committee—Ruth A. Buce, Irma C. Diehl, Mrs. Dorothy P. Giles, Madeline Henrie, Mrs. Rosalind S. Mowry, Mrs. Gertrude S. Shopper

Transportation, Fourth Grade

We Go to School, First Grade

Berks County

BERKS COUNTY

Animals, Grades 1 and 2—Viola Trout

Animals in the Zoo—Naomi M. Hall

Bees—Ida Hill

Conservation of Fish—Ellen Bossler

Course of Study in Mathematics and Science for Berks County Schools, 1946—A. C. Harper, William B. Herbein, Herbert P. Holtzman, Richard M. Moll, G. Gilbert Snyder, Cooper Weaver

Electricity, A Strange Force, A Modern Power—Jeanette DePew

Elementary Science—Margaret Lafferty

The Field Trip, a Visual Aid for Teaching Geography—Aaron H. Rohrbach

Garden Friends and Enemies—Robert D. Fister

Local History—Sara Y. Manwiller

Proper Breakfasts for Kindergarten Children—Margaret Burkhart, Olive Reilly

Rain and the Farmer—Mrs. Esther H. Stauffer

Report of Social Living Group—Berks County Curriculum Conference Kutztown STC

Saving the Soil of America—Beatrice Renninger

Science Course

Science Curriculum Projections—by Teachers Grades 1 and 2

Seeds and Plants—Marguerite Hartman

The Settlement of Massachusetts—Sadie Hartman Kutz

Suggested Curriculum in History, Grades 1 to 6—Sara Y. Manwiller

Vegetables and Flowers Grown from Seeds—Mrs. Anna N. Stamm

Water—Mary W. Schaeffer

Weather Bureau, Change of Seasons—Grace Snyder

Winter Is Coming

A Visit to Our Flour Mill—(District unidentified)

AMITY

Farm Unit—Catharine L. Casner

School Trip—Florence Ludwig, Florence Wise

Woods and Fields—Mrs. Hazel Rhoads

BERNVILLE

Animals—E. Degler

BETHANY-HEIDELBERG

Unit on Cow

Visual Aids on Apple Unit

Visual Aids on Seed Study

BIRDSBORO

The Fourth Grade Goes to Amsterdam—Florence M. Grubb

BOYERTOWN

Indian Unit—Dorothea M. Laudenslager

A Synopsis of the Preliminary Study of the Integration of Conservation Within Present Curriculum of the Boyertown Schools—Winifred Y. Moyer

The Home

Kindergarten

COLEBROOKDALE

Garden Friends and Enemies

Saving the Soil of America

Science, Grades 5-8

Seeds and Plants

CUMRU

Birds, Conservation—Joseph Plevyak

Conservation Education

Electricity

Elementary Science—Gertrude Blaum

Fairview School

Science, Conservation

Science, Grades 1 and 2

Water—Clara L. Wolf

DOUGLASS

Local History, Pine Forge—Evelyn K. Reitnauer

Science, Grades 7 and 8—Rain and Farmer

FAIRVIEW

Conservation Education—Florence Ahn, Thelma Carlton, Beulah Frederick, Mary Hoffman, Elsie Katz, Mabel Kerns, Veronica Lopatofsky, Mabel D. McGowan, Marion Morgan, Joseph Plevyak, Harold Runyeon, Dorothea While

HAMBURG

Plant Growth—Clementine Cope

Unit on Plants—Roots, Bulbs

HEIDELBERG TOWNSHIP

Visual Aid Unit—Bethany Orphan Home

KUTZTOWN

Science, Grades 1-6

Science Curriculum Projections by Teachers—Mr. Degler

Social Studies, Grade 2

KUTZTOWN STATE TEACHERS COLLEGE

Lists of Social Studies Units

LENHARTSVILLE

Bird Unit—E. Degler

Cotton Unit—E. Degler

Objectives, Grades 1-8—E. Degler

Planting Trees—E. Degler

Plants—E. Degler

Science, Grades 1-8

Silk Unit—E. Degler

LONGSWAMP

A Proposed Geography Course for Grades 1-8—By Longswamp Twp. teachers Bennett, Bortz, Butz, Fenstermacher, Jarrett, Kemp, Knappenberger, Kressley, J. Long, W. Long, Pauley, Rohrbach, Shoemaker, Walker; John W. Long, Chairman; Ralph S. Merkel, Secretary; A. F. Kemp, Adviser

LOWER ALSACE TOWNSHIP

A Proposed Course in Geography for Grades 1-8

MARION TOWNSHIP

Points of Interest in Marion Twp.—Warren E. Klopp

MAXATAWNEY

Settlement of Massachusetts

OLEY

Local History

Suggested Curriculum in History

Units, History, Grades 1-6

ONTELAUNEE

Grade 2, Social Studies—Helen R. Stoudt

Grade 3, Social Studies—Mark K. Armstrong

Grade 4, History—Dorothy M. Weidenhammer

Grade 5, History—Anna R. Moser

Grade 6, History—Dorothy Reber

The Home—Eleanor C. Moyer

READING

Weather—Teachers at the Amanda E. Stout School

RICHMOND

Animals in the Zoo

Bees

Fish

Science, Grades 3 and 4—Mrs. Kathryn Rhode, Arlene Kline

Science Projections

Weather Bureau Unit

Weather and Climate—Stanley J. Adam

ROBESON

Science—Unit

ROBESONIA

Classroom Democracy and Weather

Local History—Sara S. Keppley

Weather—Mrs. Miriam M. Lutz

SHILLINGTON

Elementary Science, Grade 4—Miss Grill

SOUTH HEIDELBERG

First Grade Unit on Flowers

Fish—Ethelyde Brillhart

Local History—Irene Troutman

Trees—Dorothy S. Becker

SPRING

Elementary Science

STRAUSSTOWN—UPPER TULPEHOCKEN

The Circus—Anna L. Clauser

TOPTON

First Grade Science Unit—Hilda A. Neusch

Science, Grade 2—Marion S. Fritz

A Synopsis of Science for Third Grade—Mrs. Mollie S. Kemp

UPPER ALLEGHENY

Science—Miss Ely

WASHINGTON TOWNSHIP

The Field Trip

Visual Aids with Science—Lloyd S. Angstadt

WERNERSVILLE

Bird Unit, Grades 5 and 6—Lucille M. Sherman

Elementary Science, Grades 3 and 4—Mrs. Ruth E. Fromm

WEST LEESPORT

Our Community and How It Grew—Mabel Clemens, Mabel Rothermel, Esther S. Schaeffer

Pageant—Local History

WEST READING

Egypt, Land of the Nile—Blanche H. Hemmig

An Experience in Kindergarten

The Grocery Store—Catherine H. Hunter

Indian Life in Many Tribes—Gladys Groenning

The Post Office—Dorothy M. Lamm

A Sequence of Social Study Units for West Reading Elementary School—Ruth Anthony, Mrs. Patricia Bare, Ida M. Blatt, Grace Erickson, Edna S. Flowers, Gladys T. Groenning, Blanche H. Hemmig, Catherine H. Hunter, John T. Kissinger, Dorothy M. Lamm, Alice B. Rothenberger, Helen M. Schiffner, J. Maurice Strattan

Social Studies Unit, Our Community—Helen Schiffner

Transportation and Communication—Forrest Schaeffer

West Reading Elementary School Studies Program

WOMELSDORF

Study of the Apple—Grace P. Hefelfinger

Blair County

NORTHERN AREA OF BLAIR COUNTY

Science, General Suggestions—Margaret Blake, Aden Burns, Fannie Dysart, Beryl Fowler, Mary Heverly, Nora Homer, Ruth Kustaborder

ALTOONA

Geography Program, Grades 1-8—Harry L. Kriner

An Integrated Program for Social Studies, Geography, Science, Grades 1, 2, 3—Betty Brown, Clara E. Cockerille, Mary Crist, Rose DeLeo, Mowrie Ebner, Martha L. Estep, Mary Fries, Angeline Geist, Gertrude Hauser, Mary E. Kurtz, Ethel McCormick, Elizabeth McKee, Alice Peterson

Science in the Elementary School—Harry L. Kriner

Social Studies Program, Grades 1-6—Harry L. Kriner

BELLWOOD-ANTIS

Ants—Harriet Miller

DUNCANSVILLE BOROUGH

Report of an Experiment with the Method of Reporting Pupil Progress—Suggested by the Committee on Curriculum Revision—Walter M. Garvin and teachers

Bradford County

BRADFORD COUNTY

Suggested Course of Study in Elementary Science—Mrs. Leone G. Benson, Mrs. Ina Bird, Clyde W. Bresee, Inez C.

Creque, Adrian T. Fisk, Mrs. Irma S. Keir, Julia H. Lunger, Audrielle L. Lynch, Mrs. G. A. Seigworth, Mrs. Viola G. Taylor

Bucks County

BUCKS COUNTY AREA II

Transportation in Bucks County—Mrs. Mary Dietz

BUCKS COUNTY AREA III

Nature Study, Grades 5-8—Alma Mae Campbell, Wilmer Crouthamel, Sally Permar, Mrs. Jeanette Woodroffe

BEDMINSTER TOWNSHIP

Exploring Our Community, Grades 5-8—Mrs. Bess Moyer

BRISTOL TOWNSHIP

Community Resources—Mrs. Margaret Beck, Mrs. Cora Goldweber, Frances Leonard, Mrs. Ella Wallin

Complete Social Studies Curriculum, Grades 1-6, with all units for each grade in detail—Margaret Beslin, Susanna Ellis, James Foley, Mary Hogarty, Helen Jack, Rosemary Johnson, Ethel Morgan, Nina Swangler

DOYLESTOWN BOROUGH

Suggested Curriculum, Grades 1-8—J. L. Halderman and elementary staff

Suggested Geography and Social Studies Curriculum for Doylestown Schools, Grades 1-8—J. L. Halderman and elementary staff

Development of World Consciousness, Grade 4—J. L. Halderman and elementary staff

HILLTOWN TOWNSHIP

Pennsylvania—Gehman's Glimpse—Margaret M. Seylar

LANGHORNE-MIDDLETOWN DISTRICT

House Building Project, Grade 1—Miriam Fox

Study of Community Resources—Ruth Ehrlen, Mrs. Johnston, Miss Knepp, Mrs. Newbold, Miss Smith

LOWER MAKEFIELD TOWNSHIP

A Social Studies Unit on Latin America—Esther W. Ultz

MORRISVILLE

A Science Curriculum for Grades 1-6—Mildred Arms, Helen Asbury, Mary Broome, Rita Cooley, Marion Evans, George Itterly, Adeline Kruse, Ellen Miller, Joy Moore, Helen Pennington, Florence Phillips, Jean Schrader, Carol Shuster, Mary Alice Stansbury, Lois Watkins

NEW BRITAIN BORO

Our Community and State—Grades 7-8—Mrs. Edith Godshall

NEW HOPE

An American Indian Unit, Grade 6—Mrs. Edith P. MacKissic

Social Studies Units, Grades 1-6—Mrs. Maude Cathers

NEWTOWN-RICHBORO DISTRICT

Map Study, with Objectives—Norman Kratz

NOCKAMIXON TOWNSHIP

Social Studies Units for Grades 1-6—Amy E. Fabian, Lulu Roth, Mrs. Kathryn Tettermer

PLUMSTEAD TOWNSHIP

Community Study, Grades 7-8—Mrs. Helen Gayman

Plumstead Township, Grades 7-8—Mrs. Elizabeth Funk

QUAKERTOWN BORO

Grocery Store Unit, Unit 1—Mrs. Evona Weierbach

Outline for Grade 2 Social Studies and Unit on Post Office—Mrs. Evona Weierbach

Transportation Unit, Grade 3—Mrs. Evona Weierbach

SPRINGFIELD TOWNSHIP

Birds, Grades 5-6—Mrs. Esther Stever

Home Unit, Grades 1-2—Mrs. Charlotte M. Trumbauer

TINICUM TOWNSHIP

Community Study (and Conservation) Grades 5-8—Mrs. Harriet B. Fabian

WARMINSTER TOWNSHIP

Historic Landmarks in Warminster Township, Grade 8—Mrs. Paul Lake, Mrs. Charles Schwartz

The History of Lacy Park—Mrs. James Arner

WARRINGTON TOWNSHIP

Indian Life in the United States, Grades 6-7—Mrs. Leola Kratz

WARWICK TOWNSHIP

Community Study, Grades 6, 7, 8—Mrs. Elizabeth Williams

Butler County

BUTLER COUNTY

Course of Study in Geography, Grades 4-7—Margaret Gruver, Lillian Heck, Luella Hinchberger, Myra Hover, Dorothy Parker, Margaret Puff, Jane L. Stanley, Roy W. Wiley

BUTLER

Course of Study in History—Helen Guitteau, Lillian Heck, Bertha Hinchberger, Anna MacKinney, Zelma McMaster, Shirley Scott, Jane L. Stanley, Alice Vensel, Roy W. Wiley

SLIPPERY ROCK STATE TEACHERS COLLEGE

The American Indian, an Experiment with a Teaching Unit in the 3rd Grade of the Elementary Training School—Nina R. Salisbury, L. H. Wagenhorst

Cameron County

CAMERON COUNTY

Curriculum Development—Geography

History

Home Economics

Science

Chester County

COATESVILLE

Life in Our Country, The Post Office—Elma V. S. Hope

People of Foreign Lands, Mexico—Martha E. Harley

Social Living—Claire Brandon, Florence Callahan, Christine Hackman, Meriam Harris

Unit—Farm Animals I—Meriam B. Harris

Unit—Moving Westward VI—Anne Wright

Unit—Our Community II—Ella Zinzarella

Unit—Our Neighbors, The Pennsylvania Dutch, III—Jean Evans, Louise Martin

Unit—Pets I—Jane Alexander

Unit—Steel VI—Phyllis P. Stuber

WEST CHESTER

Building an Integrated Unit

Civilizations of Southern Europe

Integrated Social Studies Units, Grade 4

Integrated Social Studies Units, Grade 5

Living in Central Europe, Grade 6

List of Explorers and Suggestive Material on Exploration for Grade 6

Our Neighbors to the South

Principles for the Social Studies Association for Teachers of Colored Children

Clarion County

EAST BRADY

Joseph and His Brethren, A Dramatization — Margaret J. Wiant

Local Geography—East Brady and Clarion County—Margaret J. Wiant

FARMINGTON TOWNSHIP

Citizenship and Democracy—Mrs. Cecelia P. Kapp

Clearfield County

CLEARFIELD BORO

Report of Social Studies Committee—Leah Hile, Lorraine Hoover, Florence Irwin, Twila Matthew, Grace McMahon, Amy Peters, Rebecca Smith, Flora Strayer, Marie Voinchet

Science Unit for Autumn — Emma Beauseigneur, Alliene Dodson, Leona Lindsay, Pauline London, Jean Miller, Ruth Johnston

Unit on Switzerland—Florence Irwin

DuBois

Social Studies, 4th Grade—Donna Davis, Florence Hetrick, Helen Hoffman, Marie Merris, Hilda Passarelli

LAWRENCE TOWNSHIP

Unit on the New England States—Lucinda Rorabaugh

Unit on the British Isles—Mrs. Dorothy Pearce

Unit on Holland—Mrs. Lois Read, Maude Smeal

Columbia County

BLOOMSBURG STATE TEACHERS COLLEGE

Fire Department Unit, Kindergarten—Grace H. Woolworth

Crawford County

CRAWFORD COUNTY

Recommendations for Social Living Area of Curriculum—Social Living Committees — Mrs. Ruth Campbell, Mrs. Blanche Clifford, F. R. Dickey, Mrs. Ruth M. Gamble, Mrs. Katherine Grant, Donna B. Harned, Mrs. Ruth Hollabaugh, Mrs. Phoebe Humes, Rachel C. Kunz, Mrs. Frieda McCracken, Mrs. Marian McDaniel, Mrs. Helen McLean, D. W. Miller, Mrs. Ernesteen Miller, F. B. Peters, Mrs. Alice Schafer, Thelma Shorts, Mrs. Geraldine H. Silvis, Mary Eleanor Smock, James Steiner, Mrs. Annice Stewart, Leora Swaney, Viola E. Tubbs, Mrs. Linalys White

MEADVILLE

The Center of Interest Type of School Program — C. F. Adamson, G. T. Genovese, F. B. Peters

SOUTH TROY

People of Other Lands

Cumberland County

CARLISLE

Outline for Science and Bibliography—2nd Grade

A Suggested Science Curriculum—6th Grade

Suggested Units for Science Course—5th Grade

Suggested Units for Science Curriculum—3rd Grade

Suggestions for an Elementary Science Curriculum — 1st Grade

Units for Science Curriculum—4th Grade

Units of Work for Science Course—1st Grade

SHIPPENSBURG STATE TEACHERS COLLEGE

Children of Other Lands—Ruth V. Hassler

Farm Life (An Activity Unit)—Mrs. Kathleen Trostle

Guides for the Development of a Unit of Work — Dorothy Bennett, Lillian E. Booher, Mrs. Paul Z. Group, Ruth V.

Hassler, Mrs. Eleanor N. Hoch, Mrs. Kathleen Trostle,
Estelle Whitmore

Home Unit

Indians of North America—Dorothy L. Bennett

Life in Colonial Times—8th Grade—Estella Whitmore

Pets—A Unit of Work—1st Grade—Mrs. Eleanor Hoch

Unit, Our State: Pennsylvania—Mrs. Elizabeth H. Group

Workshop in Elementary Education—Ruth V. Hassler

Cambria County

JOHNSTOWN

Development of Local History—4th Grade—Ida Cox, Hayes

Edwards, Agnes Exler, Mary Griffith, Kathryn Kurtz, Ruby

Manner, Ruth Pender, Florence Prisk, Ruth Turner

Delaware County

YEADON

America the Beautiful

The Eastern Hemisphere and Its People

The Earth on Which We Live

Neighborhoods, Then and Now

The Story of Delaware County

Why Men Wanted to Find a Short Route to the East—The
Discovery of America

HAVERFORD TOWNSHIP

Our Township's Past—The 6-3 Class of the Oakmont School

Erie County

ERIE

*Chart of Program of Studies for Elementary and Secondary
Schools*

*The Course of Study in Safety Education for Elementary
Schools, Grades 1 and 2*—Gladys Bannister, Mary Brennan,
Helen Carpenter, Eva Guthrie, Dorothy Holland, Mrs.
Mabelle Holland, Ella O'Brien, Ellen Purtle, Anna L.
Wilkins

*The Course of Study in Safety Education for Elementary
Schools, Grades 3 and 4*—Mrs. Barbara Christoph, Mable
Hamlet, Dorothy Holland, Bernice Keefe, Esther Mc-
Namara, Margaret Murray, Bertha Struchen, Violet Swan-
son, Anna L. Wilkins

Primary Course of Study, Grades 1-3

Primary Unit, Small Woodland Animals

Science, Grade 1—Marion Gardner, Grace Howard, Dolores
Seyboldt, Wanda Swiecki

Science, Grade 2—Mildred Lawaway, Camilla Lehan, Ethel
Wetherall

Science, Grade 3—Gladys Liljenberg, Dorothy Sitter, Frieda
Wiard, Esther Winschel

Science, Grades 4, 5, 6—Ann Causgrove, Jean Hamilton,
Evelyn Hirsch, Katherine Kreider, Alberta McElroy, Mar-
garet Smith, Dorothy Walker, Mildred Wheeler

Visual Aids in Science—Gladys Liljenberg

The Woodland Animals—Gladys Liljenberg

Fayette County

FAYETTE COUNTY

*Geography Education in Elementary School for Living and
Learning*—S. Kathleen Hoover, Connellsville; Mrs. Bess R.
Welch, Fayette City; Mary Butterworth, Jefferson Town-
ship; Harry J. Brownfield, George W. Dumbauld, Union-
town (County Office)

FAYETTE CITY

Geography Materials—Bess R. Welch

Greene County

GREENE COUNTY

*Geography Education in Elementary School for Living and
Learning*—Aldine Patterson, North Franklin Township;
Grace Morris, W. Walter Montgomery, Waynesburg

Indiana County

INDIANA STATE TEACHERS COLLEGE

Basic Geography Concepts—Catherine N. Garner, Norah
Zink

The Science Challenge—Dwight Sollberger, Evelyn M.
Thomas

Lancaster County

MANHEIM TOWNSHIP

Developing Social Units—Caleb W. Bucher, Laura C. Chris-
tensen, Serena R. Groff, E. Susan Sensenig

A Tentative List of Units for Social Studies for Grades 1-6—
By Elementary Teachers, Manheim Twp. School District

NEFFSVILLE

A Third Grade Clothing Unit—Dorothy G. Aument, Evelyn
C. Miller

WEST COCALICO TOWNSHIP

Social Living Program—Findings in Try-Out of a Unit—
Laura C. Christensen

Lebanon County

PALMYRA

The Use of Community Resources in 6th Grade—R. E.
Hartz, Mrs. John Long

Lehigh County

LEHIGH COUNTY

Beginnings of Social Studies—Lehigh County Social Living
Group

Know Your State and Community—Hobart A. Farber

ALLENTOWN

Bibliography, Social Studies—Anna B. Foreman

*Evaluating the Social Learnings in a Unit of Work in Social
Studies*—Miss Bechtel, Miss Grainger, Miss McGinley, Mr.
Nagle, Mr. Reber, Miss Weisley, Mr. Yeager

A Report on an Experimental Program in Social Studies—
Grace Backman, Charles Benfield, Ida Christ, Magdalen
Clous, Mrs. Claudine Davies, Beatrice DeRoner, Evelyn
Erb, Anna Feyrer, Dorothy Hartman, Frances Hartman,
Mildred Henry, Mildred Hittell, Fred W. Hosler, Claude
Kistler, Florence Kistler, Mildred Klingaman, Mabel
Knecht, Mildred Krammes, Mabel Lilly, Kathryn I. Lutz,
Grace McKee, Betty Mountz, Rachel Moyer, Arthur J.
Nagle, Grace Osmun, Davida G. Ratcliff, Henrietta Romig,
Mabel Rosenberger, Mary E. Roth, Esther Ruppell, Mar-
jorie M. Schmoyer, E. Miriam Snyder, Lillie Thorman,
Thora Thorman, Frieda Wahrman, Ruth Weaver, Emma
Weierbach, Edna S. Wenner, Mabel Weisley, Mrs. Mil-
dred Wiegner, Kathryn Yundt, Amos Skiles

Science Education, 1st Grade—Elda Bower, Chester Frantz,
Althea Grim, Minerva Oswald, Geraldine Rohrbach, Mary
Roth, Myrtle Ward

Social Studies in the Elementary School—Anna B. Foreman

Social Studies Unit—Ruth Baumann, Edna Belzner, Miriam
Biery, Elizabeth Bloss, Betty Boettger, Fredericka Clous,
Magdalen Clous, Hazel Enama, Evelyn M. Erb, Margaret
Fenner, Blanche Fusselman, Marie Glancey, Althea Grim,
Frances Hartman, Miriam M. Heckman, Helen Heiney,
Mary Helfrich, Margaret Hetzer, Marie C. Hopper, Ange-
line W. Kilmer, Elizabeth Kraft, Helen Kurtz, Isabelle

Lee, Mary Lichty, Jeanne Marquaidt, Gladys Mathias, Bertha Miller, Rachel Moyer, Elizabeth Mountz, Rachel Nickum, Anne C. Payne, Davida Ratcliff, Elizabeth Reed, Martha G. Reed, Kathryn Ruch, Louise Scheirer, Clara Schmoyer, J. Shaffer, Ezrine Snyder, R. Lorraine Utt, Sadie G. Weisley, Katherine Yandt

Mercer County

GROVE CITY

How the Slavery Question Almost Split the Nation into Two Parts—E. Eleanore Orr

Science Exhibit, Course of Study, Grade 7—Eleanor Riddle

Monroe County

EAST STROUDSBURG STATE TEACHERS COLLEGE

Tentative Curriculum for Elementary Grades, Kindergarten through Grade 6—Social Studies Field—Lois V. Anderson, Clarence W. Dupee, Myrtle Faust, Josephine B. Kerns, Helen Krug, Genevieve Randall, Mary Jane Reid

Montgomery County

LANSDALE

Building a Home—M. Louise Rickley

The Farm in Fall—Helen Seesholtz

Food—Lilly Freed

Geographic Survey of Southern States—Julia A. Bresel

The Home Unit—Martha A. Paules

How Men Have Learned to Adopt Their Way of Living to Meet Conditions Imposed by Environment as Found in Holland, a Lowland Region—Marion L. Ely

Indian Life, Unit of Activity in 2nd Grade—Caroline F. Zane

Indians of North America—Ethel R. Kuder

The Making of a Free Nation—Mrs. Cora M. Loman

Making a Greenhouse—M. Louise Rickley

The New England Colonies—Marguerite Druckenmiller

Our Friend, the Policeman—Louise S. Earwaker

Outline Reporting Experience Unit—F. Rosenberger

The Pilgrims—Anne K. Ollendick

Pioneers—Mrs. Althouse

Unit on Clothing—Marian M. Detwiler

Unit on Clothing for Grade 3—M. Gilbert

Unit on Desert Life—Grace Klinger

Unit on Switzerland—Hazel S. Jenkins

Unit on Transportation—Mrs. Edwin W. Whitmore

NARBERTH

Conservation of Natural Resources—W. J. Drennen and teachers

Social Studies Recommendations—W. J. Drennen and teachers

Tentative Outline for Social Studies, Grades 1-8—Margaret M. White

Northampton County

BANGOR

Bulletin No. 9

Community Resources and Pupils' Needs—Gladys J. Finkbeiner

Courses of Study in Science for Grades 1, 2, 3, and 4

BETHLEHEM

British Isles—Harold Barthold, Grace R. Beck, Laura Benfield, Frank Broad, Margaret Coyle, Ruth E. Edelman, Marion Graham, Agnes M. Guy, Ruth R. Jones, Mary C. Keefe, Grace Lennox, Ruth Trauger, Mabel Trumbower, May Watts

Colonizing the New World—Mrs. Mae N. Fry

The Grocery Store, Experience Unit, Grades 1 and 2—Jennie Heilman, Dorothy P. Hildebrandt

Indians—Dorothea Beck, Katherine Bishop, Loretta Buck, Ruth Evans, Elizabeth Everett, Esther Leidich, Anne McGarr, Lee Sigel

Indians of the Forest—Catherine W. Strasburg

Mexico—Mary Cosgrove

The Naming of Bethlehem and Historical Background—Eileen C. Fielding

Nature Study Unit, First Grade, Experience Unit—Josephine J. Huber

Norway—Harold Barthold, Sara Barton, Frank Broad, Marion Buck, Mabel Compton, Mary M. Degnan, Miriam Earley, Marion Graham, Blanche I. Krause, Grace Lennox, Jeanette MacEwen, Florence Madalena, Mary Phillips, Hilda M. Smith, Ruth Spilberg

Our Friends, The Firemen—Vera R. Weaver

Poland—Mildred D. Krauss

Russia (U.S.S.R.)—Mrs. Wava T. Kocher, Mrs. Louise D. Lucia, Sarah E. Sprecher

A Science Unit for the 1st Grade—Alma Schlenker

Socialized Geography—Florence Madalena

Transportation—Geraldine B. Caffrey, Eleanor E. Casey, Eileen Fielding, Mary Gallagher, Gertrude Mowery, Miriam L. Weber

Unit of Experience—Mrs. Carrie Mack

The United States as a Whole—Anne Adams, Della S. Bader, Anne Barthold, Harold Barthold, Alice A. Bigot, Frank Broad, Viola de Meglio, Pauline Getz, Marion Graham, Grace Lennox, Carrie E. Lewis, Margaret McCoy

Westward Expansion—Rose E. Mekeel

HELLERTOWN

The Use of Community Resources in Curriculum—Philippina M. Beckman, Helen I. Benner, Dorothy M. Fendon, Arlene S. Fogelman, Jeannette A. Fulton, Helen S. Neusch, Mary B. Slonaker

LEHIGH UNIVERSITY

The Beautification of School and School Grounds—Robert A. Welliver of Northampton County

An Experience Unit—M. Jane Morris, Bethlehem

How Do People of Switzerland Live?—Richard S. Bleiler, Bethlehem

How Our Community Started—Evelyn Leibenguth, Easton

Planning and Serving a Health Luncheon—Bridget Murnin, Northampton County

Plants for Food and Beauty—B. Renee Paul, Allentown

A Unit on Holland—Catherine Donahue, Allentown

A Unit on Transportation—Otis J. Rothenberger, Allentown

NORTHAMPTON

Our Community—G. A. Eichler and teachers

Northumberland County

SUNBURY

Bird Unit, Grade 4—Mrs. Beula K. McKinney

France—Mary E. Trump

Our Community, Sunbury—F. Jean Forest

Safety—Christine Diehl

Sunbury—Naomi Bender, Mary K. Heintzelman

Sunbury—Sarah Hartt

Sunbury—Marian F. Metcalfe

Philadelphia County

PHILADELPHIA

"B-7 Special" Train Teaches Wise Eating and Food Conservation—M. Esther Hill

The Industrial Arts in Education—Jack Bookbinder

Living and Learning—A Program to Unite Study and Action
—Esther Agensky, Ruth Allen, Etta Anchester, Frances M. Becker, M. Ethel Berry, Beatrice K. Bradley, Roberta V. Breitmeyer, Cathleen M. Champlin, W. Walker Cheyney, Carryl Coburn, Adelaide Conrad, Carolyn Crawford, Thomas Cullen, Clara C. DelVecchio, Albert D'Nuncio, Tanner Duckrey, Margaret W. Efraemson, Irene Esterline, Helen Foster, Jennie Graham, Edna Griffin, Mildred B. Holloway, Helen Hood, Elizabeth Killough, Paul Long, John E. Mason, Russell McBride, Katherine McConville, Raymond S. Newman, James C. W. Niebergall, Marie D. Oeste, Lydia Parker, Raymond Pizor, Irene M. Rusk, Marjorie P. Ruth, Marie E. Smith, Isadore Snyderman, Harry S. Ward, Margaret Wiegand

Pupils Study Their Community—Charlotte E. Gemmill

Course of Study in Industrial Arts, Grades 1 to 4; Items of Supplies—Materials, Tools and Equipment; Recipes for Teachers; Suggested Bibliography—Elementary Industrial Arts Staff: Edna M. Baechle, Alice R. de Ford, Dorothy M. Fehr, Elizabeth L. Loughheed, Marie D. Oeste, A. Adele Rudolph, Mae M. Steward

Pike County

PIKE COUNTY

Fire Department—History and Development with Emphasis upon Fire Prevention—Lena A. Donovan

MILFORD

Intermediate Grade Level—A Visit to State Highway Building—Mrs. Mary H. Nearing

A Visit to a Polling Place—Frances I. Hankins

Schuylkill County

SCHUYLKILL HAVEN

A Beginning Unit in Social Studies—Verna M. Ferrebee

TAMAQUA

Applied Economics — Care, Conservation and Selection of Clothing—Mary Hart, Veronica Hegarty, Mary Konelseky, Dorothy Leiser

Revision of the Social Studies Curriculum—Natalie Filey, Blanche M. Leiby, Nell Stancavage

Sullivan County

SULLIVAN COUNTY

An Annotated List of Books for the Geographic Education of the Slow Reader—Irving T. Chatterton

Tioga County

MANSFIELD STATE TEACHERS COLLEGE

Dairy Farming, Grade 6—Mildred Grigsby

Land Usage in Tioga County

Safety in the Home—Prevention of Falls

Tioga County History

Understanding Our Community — Production of Honey—Edna P. Marsh

Union County

LEWISBURG

Study of Lewisburg School Environment in Connection with Bulletin 233-A—Mary M. Arbogast, Mary E. Arner, Elizabeth Brooks, Leah H. Burns, Katherine W. Byers, Sarah H. Eyer, C. L. Hunsicker, Sara Holter, Elizabeth R. Ingwers, Ruth A. Kersteter, John A. Long, Josephine Rhinard, Marion H. Smith, H. E. Stover, Gladys W. Werner, Pauline B. Wetzel, Carolyn C. Witman

Warren County

WARREN CITY

Social Studies Objectives and Science Objectives

Washington County

CALIFORNIA STATE TEACHERS COLLEGE

Bird Friends—Unit for 4th Grade—Mary C. King, Floyd Lilley, Frances D. Moore, Bonnell Yarnell

Geography Education for Elementary Schools for Living and Learning—Thomas M. Gilland, Mrs. Thomas M. Gilland, G. E. Harding, Mrs. Rose Hughes, Mrs. Byron Holman

Unit on Cotton—Merrell E. Holman

Unit on Insects—Grade 4—Mary Caterino, Mary C. King, John Pritts

CANONSBURG

Geography Education for Elementary Schools for Living and Learning—C. A. Mathewson

CARROLL TOWNSHIP

Geography Education for Elementary Schools for Living and Learning—Eugenia Baxter, Mrs. Mary L. Brown, Mrs. Kathryn Cline, Mrs. Sara L. Davis, Mrs. Burnetta Dunmire, Reba Edgar, Sara Graham, Evelyn Jones, Mrs. M. Margaret Kuseppa, Mrs. Kathryn Kline, Mrs. Hazel Lauer-
man, Mrs. Nora Morton, J. Wilbur Nelson, Mrs. Mary Pieper, Mrs. Nellie Prosser, Helen Sampson, Mrs. Ann Suttman, Pauline Vaira, Nancy Williams

CHARLEROI

Geography Education for Elementary Schools for Living and Learning—Teresa Ferrari, Margaret Schwartz, Alma R. Sneed

MONONGAHELA

Bird Study—Gladys B. Parker

Westmoreland County

GREENSBURG

Chile—Katherine Montgomery

Geography Education for Elementary Schools for Living and Learning—Mary Bartusek, Corrine Cowan, Jane Curry, Virginia Hebrank, Alma Hensel, Clara Horne, Mary Klingensmith, Irene Kough, Avon Leeking, Katherine McArdle, M. Katherine Montgomery, Ella Murphy, Avis Slaughter, Gertrude Walthour

Geographic Understandings of the Life Adjustments in Australia—Katherine Montgomery

Mediterranean Coast Lands—Avis Slaughter

ROSTRAVER TOWNSHIP

Geography Education for Elementary Schools for Living and Learning—Frank M. Naylor

Unit of Study of Forest Resources and Industries—Frank M. Naylor

SCOTTDAL

Geography Education for Elementary Schools for Living and Learning—Pearl DePriest

Unit for 8th Grade: Pennsylvania—Pearl DePriest

York County

YORK

A Guide to the Social Studies and Science Curriculum for Grades 4, 5, and 6, as set by a workshop committee for elementary teachers of York City and York County, under the direction of Pennsylvania State College staff—Paul Bixby, Mrs. Luella Curran, Richard N. Doll, Mrs. Treva Heathcote, Mrs. Margaret B. Hockenbury, Mrs. Mary K. Hoover, Janet R. Lewis, M. Louise Lowe, Violet Markey, Nell Murphy, Margaret Neuber, Mrs. Suella S. Shue, Kenneth L. Springer, Florence Taylor, Miriam Wilt

Bridges, A Social Studies Unit—Robert W. Eaves, Arthur W. Ferguson, Laura B. Ford, L. George Hubley, Victoria Lyles
Human Relations—Bill of Rights—Harvey A. Gross
A Manual and Courses of Study for the West York Borough Schools—Faculty, West York Borough Schools
A Nutrition Unit—Mrs. Valetta S. Kelly
One World—The Philippines (2nd Edition)—Margaret A. Bush, Arthur W. Ferguson, Raymond H. Kornbau, Victoria Lyles
Report on the Social Studies—Mrs. Luella Corran, Richard N. Doll, Mrs. Treva Heathcote, Mrs. Margaret B. Hockenbunrg, Mrs. Mary Kind Hoover, Mrs. Janet R. Lewis, M. Louise Lowe, Violet Markey, Mrs. Suella S. Shue, Kenneth L. Springer
A Unit of Work—Victoria Lyles
We Are the Pennsylvania Dutch—Who Are We?—Janet R. Myers

Unidentified

An Experience Unit—Community Helpers—Gladys M. Fretz

ARITHMETIC

Allegheny County

ALLEGHENY COUNTY AND PITTSBURGH GROUP

Arithmetic Skills—Helen M. Brindley, Gladys P. Cannon, Ruth Elliott, Alida Erickson, Earl O. Liggitt, Margaret Maloney, Charles E. Manwiller, Rose B. Mickulonic, Nelle O'Rourke, Carolyn D. Patterson, Thelma Waddle, Doris H. Wilson

McKEES ROCKS

Course of Study in Arithmetic (Grades 1-6)—Viola Milburn, Amelia Palmer, Blanche Ritenour

MOUNT LEBANON

Texts

Berks County

BERKS COUNTY

Arithmetic—Mrs. Edith Boone

Arithmetic Recommendations—Claire S. Artelt, Stella S. Kalbach, Dorothy V. Kauffman, Ethel P. Kessler, Bessie Kintzer, Warren Klopp, Gertrude Metcalf, E. Willis Minnich, Marion Morgan, Annabel W. Schofield, Dora Stolfus, Elmer E. Spatz, Lester H. Wentling

Course of Study in Mathematics and Science—A. C. Harper, William Herbein, Herbert P. Holtzman, Richard M. Moll, G. Gilbert Snyder, Cooper Weaver

Initial Elementary Curriculum Report by the Committees on Arithmetic—Walter A. Rohrbach

The Toy Store—Second Grade Unit—Anna L. Renninger, New Berlinville; Walter A. Rohrbach

COLEBROOKDALE TOWNSHIP

Arithmetic, Grades 1-8—Units

First Grade Arithmetic for May—a Unit

Grocery Store Unit (3rd Grade Arithmetic)—Mrs. Clare R. Huzzard, Walter A. Rohrbach

Toy Store Unit

Unit on Insurance Protection Against Loss—Dollie V. Care, A. Stella Houck, Beatrice Renninger, Walter A. Rohrbach, Mary Schaeffer

LOWER ALSACE

Arithmetic Standards, Grade 1—Teachers of Lower Alsace Township

MOHNTON

The Grocery Store, A Contribution to Social Living—Ethel P. Kessler, Walter A. Rohrbach

READING

A Unit on Time—Teachers of 13th and Union School

Blair County

ALTOONA

Making Arithmetic Meaningful—Florence K. White

Bucks County

YARDLEY BORO

Arithmetic Outline, Grades 1-6—Mrs. Thelma Foley, Mrs. Cora Holsclaw, Mrs. Margaret Loughran, Jacqueline MacVeagh, Mrs. Elizabeth Nelson, Mrs. Kathleen Strycharz, Lorraine Thomas

Butler County

BUTLER

Arithmetic, Grades 3-7—Roy W. Wiley

Cameron County

CAMERON COUNTY

Arithmetic

Clearfield County

CLEARFIELD BORO

Arithmetic for First and Second Grades—Mrs. Rachel Dobson, Marie Flegal, Pauline London, Margaret Senser

Report of Arithmetic Committee—Alice Kramer, Howard Kuhns, Mrs. Irene McGonigal, Bertha Stage, Dorothy Winkelblech

Columbia County

BLOOMSBURG STATE TEACHERS COLLEGE

A Unit on Time—Helene Brown, Iva Mae VanScoyoc

Cumberland County

CARLISLE

Arithmetic Aims—Fourth Grade—Gertrude Schmobl

Arithmetic—Fifth Grade—Helen Kerr

Arithmetic—Sixth Grade—Earl E. Stover

Arithmetic Report—Blanch Baty, Mrs. Mary Bishop, Doris Born, Helen Kerr, Marie Obermiller, Mary Pepper, Gertrude Schmobl, Matilda Shaub, Helen Steger, Pauline Stephens, Earl E. Stover

Minimum Requirements in Arithmetic in Third Grade—Mrs. Mary Bishop, Marie Obermiller

Number Essentials in First Grade—Doris Born, Mary Pepper, Matilda Shaub, Helen Steger

Second Grade Arithmetic—Blanche Baty

Teaching of Arithmetic, Special Class—Pauline Stephens

SHIPPENSBURG STATE TEACHERS COLLEGE

Daily Arithmetic Experiences—Ruth E. Leshner

Development of Number Concept—Lillian E. Booher

Placement of Arithmetic Topics (for ages 6-11)—Ruth Hassler
Practices and Attention Span in Arithmetical Experiences—Carolyn Gross

Presentation of Various Processes in Arithmetic—Primary Grades—Anne Bringman, Carlisle

Delaware County

CHESTER

The Course of Study in Arithmetic (Grades 1-6)—Mrs. Constance G. Bailey, Mrs. Ella F. Bailey, Mrs. Jane L. Crowe, Marguerite Cummings, Laura U. Dougherty, Catherine E. Geary, J. Homer Graber, Selma Ivins, Mrs. Abigail W. Mielke, Juanita Murray, Kathryn S. Park, Sara J. Parker, Helen M. Patterson, Mrs. Harriet Pendleton, Margaret F. Powers, Mrs. Katherine M. Tisdale, Dorothy L. Wilson

Erie County

ERIE

Course of Study, Elementary Arithmetic, Grades 1-6—Gladys Bannister, Mary Brennan, Dorothy Bury, Jeannette Causgrove, Edith Duffin, Ruth Eichenlaub, Marcella Hain, Vernetta Hesse, Arvilla Hirsch, Dorothy Holland, Julia Kinney, Gladys Liljenberg, Bertha MacLeod, Hilda Meyer, Leota Pegg, Marion Pelton, Ellen Purtle, Violet Schutte, Dorothy Sitter, Bertha Struchen, Anna L. Wilkins

Fayette County

NEW SALEM

Guides for the Platoon School in Mathematics, Grades 6-8—Mrs. George Davis, Miss Dorsey, Mrs. Enberg, W. O. Forman, Miss Jubin

Franklin County

CHAMBERSBURG

Arithmetic, Grades 1-8—Anna Belle Cromwell, J. Frank Faust, Paul E. Freet, Ila G. Holsopple, Mary L. Lehman, Earl J. McElhaney, Catherine S. Meals, Louise S. Miller, Helen M. Nace, Lillian Royston

Lehigh County

LEHIGH COUNTY

Curriculum Revision in Arithmetic

ALLENTOWN

Meeting Individual Differences in Arithmetic

Luzerne County

FORTY FORT

Tentative Outline of Arithmetic—Evelyn Davis, Mrs. Camille Pettebone, Thelma Smith

WILKES-BARRE

The Arithmetic Curriculum for Wilkes-Barre, Grades 1-6—Kalma Adelson, Ruth G. Behling, Margaret Burritt, Alice Campbell, Jane W. Challis, Ella Corbett, Ellen Gray, Marguerite Harvey, Mary Hughes, Catherine Kreider, Loretta Leonard, Mary McKeown, Mary McMahon, Sara L. Maisel, Claudia L. Mann, Elsie Myers, Anne Nordstrom, Beatrice Rosenthal, Alma Thomas, Elizabeth Wiegand, Mildred Williams

Monroe County

EAST STROUDSBURG

Course of Study in Mathematics for East Stroudsburg Public Schools—Edith Brown, R. O. Burrows, Ruth Flory, Theodore Miller, Carl Secor

Montgomery County

ABINGTON TOWNSHIP

Tentative Course of Study, Elementary Arithmetic—Anna Dawson, Walter Dougherty, Elsie O'Neil, Charles Poole, Mrs. Elizabeth Ross

CONSHOHOCKEN

Course of Study in Arithmetic for the Elementary Grades, Grades 1-6—Norma Barlow, Loren L. Collins, Rose Fry, Dorothy Murray, Anetta Reedy, Mrs. Mary Souders, Frances Steeley, A. Strickler, Marie Thomas

Northampton County

BANGOR

Arithmetic Progress Check List, Third Grade, Fourth Grade, Fifth Grade, and Sixth Grade

BETHLEHEM

Unit in Arithmetic, Telling Time, and Making Clocks in Second Grade—Mrs. F. Odenwelder

Northumberland County

SUNBURY

Tentative Course of Study in Elementary Arithmetic—Grace Beck, Eleanor Butler, Mrs. Margaret Clinger, Mary Fahringer, Christine Diehl, Mrs. Hannah Garman, Marian Metcalfe, Amos Miller, Mrs. Anita M. Moon, Hazel Tucker, Rhoda Young

Philadelphia County

PHILADELPHIA

Arithmetic—Elizabeth E. Atlee, Mary B. Bauer, Lillian W. Bitner, Ruth Bowers, David Bruestle, Sarah Butterworth, W. Walker Cheyney, Marie Conway, Edith Garfield, Mary S. Gibbs, Bernard Glantz, Pauline B. Lawrence, Charles E. Larson, Lida B. Lee, William Metzner, Morris S. Miller, Ethel L. Nicholson, Joanna L. Potter, Virginia Sheller, Esther Thackrah, Anita W. Theil, Francis A. Wade, Kathleen Ward, Belle M. Wood

Schuylkill County

SCHUYLKILL HAVEN

Report of the Arithmetic Committees—Janet R. Hamilton, Elsie E. Kline, Edna M. Pfiefl, Mary A. Riebsaamen, A. Mabelle Weiss

Warren County

WARREN CITY

Arithmetic Objectives

WATSON TOWNSHIP

Arithmetic in Grade One (From experience with a group of children whom I taught eleven years in a rural school)—Cecelia P. Kapp

Washington County

CANONSBURG

A Unit on Mensuration—A. Alma Schubert

York County

YORK CITY

Primary Arithmetic—Victoria Lyles

Unidentified

Arithmetic—Harold T. Childs, R. L. Sweitzer, Mary L. Welch

HEALTH, PHYSICAL EDUCATION, RECREATION, AND SAFETY

Allegheny County

ALLEGHENY COUNTY AND PITTSBURGH GROUP

Administrative Health Responsibilities Related to the Physical Well-Being of the Child

Circulation and Respiration

Cleanliness and Personal Appearance

Disease Control

Eyes, Ears, Voice

Health Service

Health Teaching

Mental Health

Narcotics and Drugs

Nutrition

Outline of Physical Education Activities

Physical Education

Physical Education and Recreation

Recreation

Related Factors to Be Considered in a Physical Education Program

Rest, Relaxation, and Sleep

Safety Education

Young Adults Problems

—L. Eugene Jacques, Aspinwall; Bruce L. Adams, Jean Moorhouse, Bellevue; Evaleen Laughlin, Clairton; Frances Shakarian, Dormont; Kathleen Vaughn, Forest Hills; Mary Jane Hoffman, Mary C. Kenngot, Mt. Lebanon; Eleanor Hunter, Penn Township; Mildred Battenfelder, Virginia Citron, Harry Dippold, Rosana Dugan, Frank Eckl, Sophie S. Eppy, Carolyn Feller, Todd Pyle, Julia Ring, Allen Stepnick, Mildred Wiltman, Jean Hanable, H. S. Irons, Sewickley; Emmett Tweedy, Turtle Creek; Luella Pollard, West View

MT. LEBANON

Health Education

MUNHALL

Health Activities for the Primary Grades—Mrs. Katherine Anderson, Mrs. Gladys Ellis, Mrs. Hilda Hamilton, Mrs. Rachel Hleba, Helen Kline, Margaret Malone, Mrs. Zella Miller, Margaret Roberts, Miriam Seiberling, Helen Wasserman, Waster F. Weaver, Marjorie Williams

PITTSBURGH

Course of Study in Health Education, Kindergarten, Grades 1-3—Eva Betschart, Mary Herman, Jane Longwell, C. E. Manwiller, Elsie Metz

Health Course of Study, Grades 4, 5, 6—Mildred Battenfelder, Karl Fehrenbach, C. E. Manwiller, Irma Schaffnit, Idell Wilson

SEWICKLEY

We Believe Education Is Continuous Growth—Sewickley Faculty Committee

Berks County

BERKS COUNTY

Fourth Grade Health—Mrs. Florence McKeever

Health—Grades 1 and 2—May E. Searle Dietrick

Health—Mrs. Heck, Mrs. Kerns

BRECKNOCK TOWNSHIP

Elementary Health—Suggestions

Health for Rural Schools

Unit on Care of Teeth

Unit Work on Growth and Nutrition (Grades 4-8)

MARION

Health Units for Grades 1 and 2

MUHLENBERG TOWNSHIP

Physical Education in Elementary Schools

READING

Nutrition in Second and Third Grades—Ruth A. Shaeffer, Helen B. Shollenberger

The Basic Seven Food Group, Grade 4—Marguerite F. Arters, Florence D. Hollenbach

Unit on Breakfast for Grade 1—Katharine Koenig, Mildred Walter

SHILLINGTON

Evaluations and Summary of Play Activities in the Shillington Elementary Schools—Mr. Dickinson, Olive L. Fritz, Marie Goodman, Marie E. Grill, G. Henry, L. Hollenbach, S. Louis Huntzinger, Dorothy V. Kauffman, M. Kiensevage, J. Allen Richards, Ruth M. Richards, Frances I. Tate, G. Trump

Organized Play Program

TOPTON

Unit—Grade 4—Health

Blair County

BLAIR COUNTY

Proposed Course of Study for Blair County, Recreational Needs for Children—Ruth Pincin, Catharine Troxell, Herman White

BLAIR COUNTY — AREA 2

Health Education—Mrs. Dorothea Guyer, Beatrice A. Kelly

Bucks County

BUCKINGHAM TOWNSHIP

Safety Education—Carolyn A. Bry, Mary G. DeCoursey, Kathryn M. Scarborough

NEW HOPE-SOLEBURY ELEMENTARY SCHOOL

Health, Grade 1—Katherine Bidelman

SPRINGFIELD TOWNSHIP

Health Heroes—Mrs. Carrie Horne

Butler County

SLIPPERY ROCK STATE TEACHERS COLLEGE

Safety Education—Emma Heard

Cameron County

CAMERON COUNTY

Physical Education

Centre County

CENTRE COUNTY

Outline for Centre County Health Program

PENNSYLVANIA STATE COLLEGE

Report—School and Community Health Workshop—July 2-20, 1945

Clearfield County

CLEARFIELD

Elementary Health and Physical Education Program—Bertha Stage

Safety Education in the Elementary Grades—Mildred Bollinger, Betty Harvey, Geneva Kramer

DuBois

Physical Education—Minnie Clark, Ethelyn Fye, Hilda Passarelli, David Robertson, Lorette L. Sullivan

Cumberland County

SHIPPENSBURG STATE TEACHERS COLLEGE

Health and Physical Education—E. F. Melhorn

Physical Education in the Elementary School as a Force for Democratic Living—Ernest F. Melhorn

Erie County

ERIE

The Course of Study, Health, and Safety Education, Primary Grades (Revised 1948)—Gladys Bannister, Elizabeth Bierley, Mary Brennan, Charlotte Campbell, Alice Chambers, Barbara Christopher, Elizabeth DeSantis, Della Foye, Eva Guthrie, Dorothy Holland, Ann Hoon, Ella O'Brien, Ellen Purtle, Bertha Struchen, Margaret Webb, Ann L. Wilkins

Health and Safety Course of Study, Intermediate Grades, 1945—Clara Boyd, Florence Cooper, Mary Crotty, Amelia Donaldson, Ruth Gustofson, Marcella Hain, Mabel Hamlet, Mrs. Vernetta Hess, Ruth Kearney, Margaret Kuerner, Esther McNamara, Clara Minnig, Margaret Murray, Katherine Pfadt, Alma Struchen, Mary Zita Sullivan, Ebrence

Swanson, Violet Swanson, Flora Wallhauser, Ann L. Wilkins, Betty Zeigler

Games for Playground and Gymnasium, Grades 1-6—Selected by Playground Supervisors

Indiana County

INDIANA

Physical Education Activities—Harriet Figgles

Lancaster County

LANCASTER COUNTY

Physical Education for First Grade—Arnold F. Fink, Helen M. Witmyer

Lebanon County

LEBANON

Pre-School Clinic—Edith R. Rapp

Lehigh County

COOPERSBURG-LOWER MILFORD

The Priceless Ingredient of Childhood

Monroe County

EAST STROUDSBURG STATE TEACHERS COLLEGE

Safety Education in the Elementary School—Genevieve Randall

Northampton County

BETHLEHEM

Physical Education—Frank Broad

Philadelphia County

PHILADELPHIA

A Suggested Course of Study in Health Education for Rural and Grade Schools—Pennsylvania Tuberculosis Society, Grover Mueller, Director

Division of Health and Physical Education:

Course of Study in Health Education, Grades 1-4

Course of Study in Physical Education, Grades 1-6

Health Projects in District 7—School Health Council, Selected Posture Exercises, Health Defects (Symptoms and Behavior)

Physical Fitness Tests

Stunts for Special Classes

Tentative Modified Course of Study in Physical Education, Grades 7-8

Tentative Tests of Basic Physical Qualities, Grades 1-6

Visual Aids in Health Education

Division of Medical Services:

Guide Book, Complete Physical Examinations

Handbook for Personnel

Warren County

WARREN

Health and Physical Education Objectives

York County

YORK

Suggestions for a Dental Health Program—Mary C. Dick

ART

Allegheny County

ALLEGHENY COUNTY AND PITTSBURGH AREA GROUP

Developing Personal Tastes and Abilities in Art—Mrs. Mary

K. Auld, Ruth M. Ebken, Mrs. Esther Fineman, Katherine McFarland, Mary Adeline McKibbin, Grace W. Rodgers

PITTSBURGH

Art Experience—Marjorie A. Blackstone

Berks County

BERKS COUNTY

Art Education—Grace Lennox

Art in a Rural School—Edna M. Guhl

CENTER

Art Workshop Report

SPRING

Art Classroom Experience

Blair County

NORTHERN AREA OF BLAIR COUNTY

General Suggestions and Procedures for the Art Curriculum of Pennsylvania—Julia Conrad, Merna M. Delevett, Mildred H. Gates, Viola Glasgow, Miriam D. Hearn, Joanna Hiller, Jean S. Keith, John S. Lotz, Dorothy Nearhoof, Cora Reed, Margaretta Russell, Louise Schmitt, Fannie Shiffler, Mary A. Schoenfelt, Mary B. Smith, E. J. Snowberger, Mrs. E. J. Snowberger, Olga C. Snyder, Margaret Strehle, George D. Weiss

TYRONE

Course of Study in Art Education, Kindergarten, Grades 1, 2, 3, 4, 5, 6—Art Supervisor, with the help of the regular teacher

Bucks County

HILLTOWN TOWNSHIP

Art Activities—Mrs. Florence L. Hager

RIEGELSVILLE BORO

Art in the Elementary Grades—Mrs. Ethel Kulp, Mrs. Jessie Mogel, Mrs. Ethel B. Shick, William Singer

Butler County

BUTLER

Teacher Reports on Art Activity—Mrs. Narcissa J. Corey

Cambria County

JOHNSTOWN

Art Lessons to Be Taught with Inexpensive or Discarded Materials—Elaine Dyer, Rosella Garrity, Mary Kocher, Gertrude Lake, Katharine Murray, Helen Ogden, Mary Quinn, Thelma Richards, Bernice Shaver, Kathryn Stutzman

Cameron County

CAMERON COUNTY

Curriculum Development in Art

Centre County

BELLEFONTE

Units on Lettering—Enid Alice Musser

STATE COLLEGE

Information on Crafts—Helen Gartner

Chester County

WEST CHESTER STATE TEACHERS COLLEGE

A Setup or Model of Headings Under Which a Course of Study in Art May Be Written—Marion Farnham, Hazel Lamborn, John Lembach, Jessie Morris

Clearfield County

DuBois

Art in the Curriculum—Ruth Daugherty, Mrs. Lillian Lowe, Mrs. Florence Swallow, Anne N. Williams

Art and Public Relations—Anne N. Williams

Clinton County

LOCK HAVEN STATE TEACHERS COLLEGE

Art in the Primary Grades—Nora M. Graffius, L. Gross, Mabel Phillips, C. Rook, M. Grace Wible

Dauphin County

HERSHEY

Suggested Course of Study in Art Education for the Hershey Elementary School

Delaware County

UPPER DARBY

Art in the Elementary School Curriculum—Carroll Blank, Ann Wood Bowen, Lola Cortelyou, Margaret Crawford, Hester Cunningham, Mabel Faulkner, Janice Guiesinger, Ruth Hershey Irion, Ruth Young Jamison, Miriam J. Kendrick, Clara Kracsun, Pauline E. Roffe, Lucille Yerger

The Craft Experience

The Graphic Experience

Erie County

ERIE

Course of Study in Art Education for Elementary Schools—Gertrude Hemmerly

Indiana County

INDIANA

A Study of the Community of Indiana—Anna J. Thompson

Lackawanna County

SCRANTON

Course of Study in Art—Terrance Gallagher

Lancaster County

ELIZABETHTOWN

Art Objectives in the Elementary School

Philosophy of Art

Northumberland County

SUNBURY

Tentative Course of Study, Including List of Pictures for Appreciation—Louise Barnhart, Rebecca C. Ehret, Verna E. Fetterman, F. Jean Foust, Marion K. Johnson, Betty Lou Kepner, Mrs. Mildred Miller, Mrs. Anita M. Moon

Warren County

WARREN

Art Objectives

York County

SPRING GARDEN TOWNSHIP

Picture Study—Huber D. Strine

MUSIC

Allegheny County

ALLEGHENY COUNTY AND PITTSBURGH AREA GROUP

Recommendations for the Revision of State Music Curriculum—Grace Cyphers, Oscar W. Demmler, Fleeta Gillespie, Mrs. Silvia Schmidt

Berks County

BERKS COUNTY

Music Education—Marion Graham

MUHLENBERG TOWNSHIP

Music Education in the Elementary Grades—Mrs. M. Annetta Kauffman

ROCKLAND TOWNSHIP

Music Fun—Alta Newcomer

Blair County

NORTHERN AREA OF BLAIR COUNTY

General Suggestions and Procedures for the Music Curriculum of Pennsylvania—Mrs. Hilda Fry, Laura Irwin, Lorraine Knepp, Mrs. Ruth McConahay, George D. Weiss, Mary Wertz

Bucks County

DURHAM

A Study of Music Rhythm—Andrew Corry, Priscilla Killer, Bessie C. Moyer, Mrs. Katharine Ross

NEW HOPE

Music Activities, 1947-48—Mrs. Ella M. Shoch

SPRINGFIELD TOWNSHIP

A Spring Musical, Grade 7—Mrs. Esther Stever

Cameron County

CAMERON COUNTY

Instrumental Music

Vocal Music

Clearfield County

DuBois

Elementary Curriculum of Music—Frances Clark, Lucile McGee, Elizabeth Purdy, Julia Reich, Myrtle Seely

Dauphin County

DERRY TOWNSHIP, HERSHEY

Elementary Music Curriculum—Treva Dice, Mary Lutz, Richard Neubert, Kathryn Rettinger

Indiana County

INDIANA

American Music—South—Source Unit—Lola A. Beelar

Music Recommendations—Lola A. Beelar

Lebanon County

LEBANON

Elementary Curriculum in Music for One- and Two-Room Schools—Verda Phillips

Lehigh County

LEHIGH COUNTY

America's Musical Heritage—Lehigh County Group

Monroe County

EAST STROUDSBURG STATE TEACHERS COLLEGE

Course of Study in Elementary School Music for Grades 1 to 6—Donald B. Corson, Clement W. Wiedinmyer

Warren County

WARREN

Music Objectives

KINDERGARTEN

Allegheny County

ALLEGHENY COUNTY AND PITTSBURGH AREA

An Outline of Experiences for the Kindergarten Child

Science Experiences for the Kindergarten-Primary Grade Child—Lydia E. Collins, Gerald S. Craig, Estelle W. Ferris, H. May Ford, Ruth Jennings, Muriel J. MacLaren, Helen M. Powers, Margery Winer

Berks County

BETHANY

Bethany Christmas Activities—Ella B. Eckert
The Cow

BOYERTOWN

A Home Unit—Elema Wiltraut
Suggestions for a Christmas Unit—Elema Wiltraut
Train Unit—Edna Mecherty

KUTZTOWN STATE TEACHERS COLLEGE

Christmas Unit—K. Christ
The Zoo or Circus—K. Christ

LONGSWAMP-TOPTON HOME

Christmas Eve

LUTHERAN HOME

The Store—Helen Arndt

MOHNTON

Fruit—Sibella K. Reinhart

MT. PENN

Christmas Activities—Betty R. Selig
Unit of Study on the Post Office—Betty R. Selig

SHILLINGTON

The Fireman Project—Mrs. Phillips

WEST READING

Getting Ready for Christmas—Mrs. Edna S. Flowers
Grocery Store and Home—Mrs. Flowers

WYOMISSING

Christmas Activities in the Kindergarten—Avis Schaeffer
A Kindergarten Unit on Dramatization—Avis Schaeffer

Bucks County

QUAKERTOWN

Kindergarten Report of Progress—Ruth Beckenbaugh
Kindergarten Registration Form—Ruth Beckenbaugh, Naomi Young

Butler County

SLIPPERY ROCK STATE TEACHERS COLLEGE

Bulletin to Parents of Kindergarten Children—Emma Heard
Check List Used by Students—Emma Heard
Progress Report on Kindergarten Curriculum—Emma Heard
Sample of Kindergarten Report—Emma Heard

Clinton County

LOCK HAVEN STATE TEACHERS COLLEGE

The Viewpoint of Pre-Primary and Primary Teachers at the Campus School—Nora Graffius, Lydia Gross, Mabel Phillips, Helen Waterbury

Cumberland County

CARLISLE

Their First Year

Dauphin County

HERSHEY

Suggested Course of Study for Kindergarten—Lois McWilliams, Jane Springer

Erie County

ERIE

A Good Kindergarten Home for Five-Year-Olds—Eleanor Asmus, Esther Johnson, Ann Krivonak, Elizabeth Smith
Kindergarten Committee Recommendations (February, 1943)
Our Kindergarten Days (1943 Edition and 1945 Edition)

Fayette County

FAYETTE COUNTY

Books and Stories to Be Told—Mrs. Rena Hibbs, Mrs. Ruth Mapstone
Games—Alice Forsythe, Kathleen Gelder, Frances McCarthy, Jeroldeane Rainone
Literature—Nelle Berg, Mrs. Orrie B. McDowell, Members of the School Districts of Point Merion, Smithfield, and Springhill
Philosophy—George W. Dumbauld, Ellen Belle Hickle, Glenn W. Irvin, A. J. McMullen, Mabel L. Skiles
Reading Readiness—Alice Forsythe, Ruth Franks, Mary Glass, Bertha Roberts
Reports and Forms—Ellen Belle Hickle, E. I. Ramsier
Rhythm Activities—Helenbelle Basarb, Nancy Darby, Mary C. Dimasi, Emogene Elliott, Juanita Hawthorne, Ellen Belle Hickle, Blanche Simeral, Villa Slavkosky
Rhythms—Eleanor Biagin, Sara Jane Durigan, Aloda Groves, Sara Kirby, Esther Merryman, Rose Rau
Social Development—Ruth Harger, Freda Murphy
Speech Training—Margaret Fowler, Louise Noon, Mabel Skiles

Lancaster County

LANCASTER COUNTY

Pre-School Enrollment Day, 1945-46

MANHEIM TOWNSHIP

Community Helpers—Gladys M. Fretz

Lehigh County

ALLENTOWN

Getting Ready for School—Anna B. Foreman, Mae Forstler, Josephine F. Grainger, Ezrine Hoch, Charlotte Krause, Charlotte Reppert, Elizabeth Ritter, Dr. Rutherford, Mary Strohecker, Katherine Werner

McKean County

BRADFORD

Kindergarten—Geraldine Baker, Janice Ferman, Christine Holly, LeJune Pier, Ardelle Whitman

Montgomery County

BRIDGEPORT

Kindergarten

Northumberland County

SUNBURY

Our Kindergartens at Work and Play—Mildred Amey, Margaret Bortz, Ruth Johnston, Anita Moon

Philadelphia County

PHILADELPHIA

A Joyous Day for Your Child and Teacher's Guide for Same—Etta Anchester, Louise J. Greathead, Esther Thackrah

APPENDIX

LIST OF PUBLISHERS WITH ADDRESSES

SPECIAL DAYS FOR THE SCHOOL CALENDAR

LIST OF MATERIALS FOR THE TEACHER OF ELEMENTARY SCIENCE

SUPPLIES FOR ELEMENTARY INDUSTRIAL ARTS ACTIVITIES

SIMPLE RECIPES FOR USE IN CLASSWORK

PROCEDURE FOR POSTPONEMENT OF ADMISSION TO

OR FOR CONTINUATION IN FIRST GRADE

SAMPLES OF RECORD FORMS

*Erie Kindergarten Record — Pupil's Health Record — Exeter Township Elementary Personnel
Record — Altoona School Records — Chester Elementary School Report*

LIST OF PUBLISHERS

Abingdon-Cokesbury Press, 150 5th Avenue, New York 11,
New York.

Allyn & Bacon, 11 E. 36th Street, New York 16, New York.

American Book Company, 88 Lexington Avenue, New York 16,
New York.

American Council on Education, 744 Jackson Place, N. W.,
Washington 6, D. C.

American Education Press, Inc., 400 S. Front Street, Colum-
bus 15, Ohio.

American Library Association, 50 E. Huron Street, Chi-
cago 11, Illinois.

American Museum of Natural History, Columbus Avenue
and 77th Street, New York 24, New York.

American Tree Association, 1212-14 16th Street, N. W.,
Washington, D. C.

D. Appleton-Century Company, Inc. (also Appleton-Cen-
tury-Crofts), 35 W. 32nd Street, New York 1, New York.

Artext Prints, Inc., Westport, Connecticut.

Association for Childhood Education, 1201 16th Street,
N. W., Washington 6, D. C.

Walter H. Baker Company, 178 Tremont Street, Boston 11,
Massachusetts.

Banks Upshaw & Company, 707 Browder Street, Dallas 1,
Texas.

A. S. Barnes & Company, Inc., 67 W. 44th Street, New
York 18, N. Y.

M. Barrows & Co., Inc., 114 E. 32nd Street, New York 16,
New York.

Beckley-Cardy Company, 1632 Indiana Avenue, Chicago 16,
Illinois (Acquired some of the publications of Harter).

The Benton Review Shop, Fowler, Indiana.

Binney & Smith Co., 676 Drexel Building, Philadelphia,
Pennsylvania.

C. C. Birchard & Company, 221 Columbus Avenue, Bos-
ton 16, Massachusetts.

The Blakiston Company, 1012 Walnut Street, Philadelphia 5,
Pennsylvania.

Bobbs-Merrill Company, 468 4th Avenue, New York 16,
New York.

Book Supply Company, 546-566 W. Monroe Street, Chi-
cago 6, Illinois.

Milton Bradley Company, 74 Park Street, Springfield 2,
Massachusetts.

Bruce Publishing Company, 330 W. 42nd Street, New
York 18, New York.

Cadmus Books (Division of E. M. Hale & Co.—See E. M.
Hale & Co.).

Caxton House, Inc., 9 Rockefeller Plaza, New York 20,
New York.

Central Washington College of Education, Ellensburg,
Washington.

Children's Press, Inc., 200 5th Avenue, New York 20,
New York.

The Christopher Publishing House, 1140 Columbus Avenue,
Boston 20, Massachusetts.

P. F. Collier & Son, Corp., 250 Park Avenue, New York 17,
New York.

Columbia University Press, 2960 Broadway, New York 27,
New York.

- Committee on Consumer Relations in Advertising, Inc.,
420 Lexington Avenue, New York, New York.
- F. E. Compton & Co., 1000 N. Dearborn Street, Chicago 10,
Illinois.
- Comstock Publishing Co., Inc., 124 Roberts Place, Cornell
Heights, Ithaca, New York.
- Continental Press, Cameron & Kelker Streets, Harrisburg,
Pennsylvania.
- The Cordon Co., Inc. (See Dryden).
- Coronet Instructional Films, 64 E. South Water Street,
Chicago 1, Illinois.
- Coward-McCann, Inc., 2 W. 45th Street, New York 19,
New York.
- O. P. Craft Company, Inc., Sandusky, Ohio.
- F. S. Crofts & Company (See D. Appleton).
- The Thomas Y. Crowell Company, 432 4th Avenue, New
York 16, New York.
- Crown Publishers, 419 4th Avenue, New York 16, New York.
- Cupples & Leon Company, 460 4th Avenue, New York 16,
New York.
- F. A. Davis Company, 1914-16 Cherry Street, Philadelphia 3,
Pennsylvania.
- The Davis Press, Inc., 44 Portland Street, Worcester, Massa-
chusetts.
- John Day, Inc., 121 Avenue of the Americas, New York 13,
New York.
- Stephen Daye Press, Inc. (See Ungar).
- Denoyer-Geppert Company, 5235 Ravenswood Avenue,
Chicago 40, Illinois.
- Dial Press, Inc., 461 4th Avenue, New York 16, New York.
- Ditto, Inc., Harrison at Oakley Boulevard, Chicago, Illinois.
- Dodd, Mead & Company, 432 4th Avenue, New York 16,
New York.
- M. A. Donahue & Company, 200 5th Avenue, New York 10,
New York.
- Doubleday & Company, Inc., Garden City, New York.
- The Dryden Press, Inc., 386 4th Avenue, New York 16,
New York. (Acquired the publications of Cordon).
- Duell, Sloan & Pearce, Inc., 270 Madison Avenue, New
York 16, New York.
- Duke University Press, College Station, Durham, North
Carolina.
- E. P. Dutton & Company, Inc., 286-302 4th Avenue, New
York 10, New York.
- Ebbert & Richardson, Cincinnati, Ohio.
- Educational Materials, Inc., 46 E. 11th Street, New York,
New York.
- Educational Publishers, Inc. (Educational Test Bureau),
3433 Walnut Street, Philadelphia 4, Pennsylvania.
- Educational Publishing Company, 221 4th Avenue, New
York 16, New York.
- Educational Publishing Corporation, Leroy Avenue, Darien,
Connecticut.
- Educational Service, Inc., Aurora, Illinois.
- Educational Test Bureau (See Educational Publishers, Inc.).
- Educators Progress Service, Randolph, Wisconsin.
- Edwards Brothers, Inc., 300 John Street, Ann Arbor, Michi-
gan.
- Encyclopedia Britannica, Inc., 20 N. Wacker Drive, Chi-
cago 6, Illinois.
- Expression Co., Magnolia, Massachusetts.
- Farrar & Rinehart, Inc. (See Rinehart).
- F. W. Faxon Company, 83-91 Francis Street, Back Bay,
Boston 15, Massachusetts.
- Federal Security Agency, U. S. Office of Education, Wash-
ington 25, D. C.
- Fideler Co., 40 Ionia Avenue, N. W., Grand Rapids 2,
Michigan.
- Firth Films, Box 565, Hollywood, California.
- A. Flanagan Company, 920 N. Franklin Street, Chicago 10,
Illinois.
- Follette Publishing Company, 1257 S. Wabash Avenue,
Chicago 5, Illinois.
- Franklin Publishing & Supply Co., Inc., 1931 Cherry Street,
Philadelphia, Pennsylvania.
- Samuel French, Inc., 25 W. 45th Street, New York 19,
New York.
- Friendship Press, 156 5th Avenue, New York 10, New York.
- Garden City Publishing Co., Inc., Garden City, New York.
(Also use imprints of Sun Dial).
- Garrard Press, 119-123 W. Park Avenue, Champaign, Illinois.
- Ginn & Company, 72 5th Avenue, New York 11, New York.
- Globe Book Company, Inc., 175 5th Avenue, New York 10,
New York.
- Graton and Knight, Worcester, Massachusetts.
- Greenberg, Publisher, 201 E. 57th Street, New York 22,
New York.
- The Gregg Publishing Company, 270 Madison Avenue,
New York 16, New York.
- The Grolier Society, Inc., 2 W. 45th Street, New York 19,
New York.
- Grossett & Dunlap, Inc., 1107 Broadway, New York 10,
New York.
- E. M. Hale & Co., 320 S. Barstow St., Eau Claire, Wisconsin.
(Now handling Cadmus Books, directly).
- A. Neely Hall Productions, Elmhurst, Illinois.
- Hall & McCreary Company, 434 S. Wabash Avenue, Chi-
cago 5, Illinois.
- J. L. Hammett Co., 380 Jelliff Avenue, Newark, New Jersey.
- C. S. Hammond & Co., Inc., 305 E. 63rd Street, New York 21,
New York.
- Harcourt, Brace & Company, Inc., 383 Madison Avenue,
New York 17, New York. (Absorbing publishing house of
Reynal & Hitchcock).
- Harlow Publishing Corp., 217 N. Harvey Avenue, Oklahoma
City 2, Oklahoma.
- Harper & Brothers, 49 E. 33rd Street, New York 16, New
York.
- The Harter Publishing Co. (See Beckley-Cardy).
- Hastings House, 67 W. 44th Street, New York 18, New
York.
- D. C. Heath & Company, 180 Varick Street, New York 14,
New York.
- William Helburn, Inc., 15 E. 55th Street, New York 22,
New York.
- Herf-Jones Co., 1411 N. Capitol Avenue, Indianapolis,
Indiana.
- The Heyer Corp., 1864 S. Kostner Avenue, Chicago 23,
Illinois.
- Hinds, Hayden & Eldredge, Inc., 105 5th Avenue, New
York 3, New York.
- Holiday House, Inc., 513 Avenue of the Americas, New
York 11, New York.

Henry Holt & Company, Inc., 257 4th Avenue, New York 10, New York.

Houghton, Mifflin Company, 432 4th Avenue, New York 16, New York.

Illuminating Engineering Society, 51 Madison Avenue, New York 10, New York.

International Textbook Company, 1001 Wyoming Avenue, Scranton 9, Pennsylvania.

Iroquois Publishing Company, Inc., 333-35 W. Fayette St., Syracuse 2, New York.

Jam Handy Organization, 2821 E. Grand Boulevard, Detroit 11, Michigan.

Johnson Publishing Company, 105 5th Avenue, New York 3, New York.

Junior Literary Guild, Garden City, New York.

Keystone View Company, Meadville, Pennsylvania.

H. C. Kinsey & Company, Inc. (See Putnam).

D. Klein & Bro., Inc., 715 Arch Street, Philadelphia, Pennsylvania.

Alfred A. Knopf, 501 Madison Avenue, New York 22, New York.

Laidlaw Brothers, Inc., 221 4th Avenue, New York 3, New York.

La Salle Extension University, 417 S. Dearborn Street, Chicago 5, Illinois.

J. B. Lippincott Company, 227-231 S. 6th Street, Philadelphia 5, Pennsylvania.

Little, Brown & Company, 34 Beacon Street, Boston 6, Massachusetts.

Liveright Publishing Corporation, 386 4th Avenue, New York 16, New York.

Longmans, Green & Company, 55 5th Avenue, New York 3, New York.

Lothrop, Lee & Shepherd Co., Inc., 419 4th Avenue, New York 16, New York.

Lyons & Carnahan, 76 9th Avenue, New York 11, New York.

The Macmillan Company, 60 5th Avenue, New York 11, New York.

Macrae Smith Co., Lewis Tower Building, 225 S. 15th Street, Philadelphia 2, Pennsylvania.

The Manual Arts Press, 237 N. Monroe Street, Peoria 3, Illinois.

Robert M. McBride & Company, 200 E. 37th Street, New York 16, New York.

The McCormick-Mathers Publishing Company, 250 Park Avenue, New York 17, New York.

McGraw-Hill Book Company, Inc., 330 West 42nd Street, New York 18, New York.

David McKay Company, 604-608 S. Washington Square, Philadelphia 6, Pennsylvania.

McKinley Publishing Company, 809 N. 19th Street, Philadelphia 30, Pennsylvania.

McKnight & McKnight, 109-11 W. Market Street, Bloomington, Illinois.

McLoughlin Bros., Inc., 45 Warwick Street, Springfield 1, Massachusetts.

G. & C. Merriam Company, 47 Federal Street, Springfield 2, Massachusetts.

Charles E. Merrill Company, Inc., 1780 Broadway, New York 19, New York.

Julian Messner, Inc., Publishers, 8 W. 40th Street, New York 18, New York.

William Morrow & Company, Inc., 425 4th Avenue, New York 16, New York.

National Dairy Council, 437 5th Avenue, New York 16, New York.

National League of Women Voters, 726 Jackson Place, Washington 6, D. C.

N. E. A. (National Education Association), 1201 16th Street, N. W., Washington 6, D. C.

Thomas Nelson & Sons, 385 Madison Avenue, New York 17, New York.

Newson & Company, 72 5th Avenue, New York 11, New York.

New York State Committee on Mental Health, 105 E. 22nd Street, New York 10, New York.

Noble & Noble, Publishers, Inc., 67 Irving Place, New York 3, New York.

A. J. Nystrom, 3333 Elston Avenue, Chicago, Illinois.

Odyssey Press, Inc., 386 4th Avenue, New York 16, New York.

F. A. Owen Publishing Co., Dansville, New York.

Oxford Book Co., Inc., 222 4th Avenue, New York 3, New York.

Oxford University Press, 114 5th Avenue, New York, New York.

L. C. Page & Company, 53 Beacon Street, Boston, Massachusetts.

Penn Publishing Co. (See The Wm. Penn Publishing Corp.).

The Wm. Penn Publishing Corp., 221 4th Avenue, New York 3, New York. (Successors to the Penn Publishing Co.).

Pennsylvania Book Service, Cameron & Kelker Streets, Harrisburg, Pennsylvania.

Pennsylvania Game Commission, Harrisburg, Pennsylvania.

The Peterson System, 214 N. Main Street, Greensburg, Pennsylvania.

The Platt & Munk Company, Inc., 200 5th Avenue, New York 10, New York.

Prentice-Hall, Inc., 70 5th Avenue, New York 11, New York.

Public School Publishing Company, 509-13 N. East Street, Bloomington, Illinois.

Publishers Library Service, 103 N. Cannon Avenue, Lansdale, Pennsylvania.

Putnam's Sons, 121 Avenue of the Americas, New York 13, New York. (Acquired the publications of Kinsey; also handle and sell all Minton publications.)

W. F. Quarrie & Co., 35 E. Wacker Drive, Chicago, Illinois.

Rand, McNally & Company, 111 8th Avenue, New York 11, New York.

Random House, Inc., 457 Madison Avenue, New York 22, New York.

The Readers Digest, Educational Department, 353 4th Avenue, New York 16, New York.

Reynal & Hitchcock (See Harcourt).

J. A. Richards, Inc., Publishers, Kingsport, Tennessee.

Rinehart & Co., Inc., 232 Madison Avenue, New York 16, New York. (Formerly known as Farrar & Rinehart, Inc.)

The Ronald Press Company, 15 E. 26th Street, New York 10, New York.

Row, Peterson & Company, 131 E. 23rd Street, New York 10, New York.

PENNSYLVANIA DEPARTMENT OF PUBLIC INSTRUCTION

- The H. M. Rowe Co., Inc., 624 N. Gilmore Street, Baltimore 17, Maryland.
- Roy Publishers, 25 W. 45th Street, New York 19, New York.
- Saalfeld Publishing Company, Saalfeld Square, Akron, Ohio.
- Benj. H. Sanborn & Company, 221 E. 20th Street, Chicago 16, Illinois.
- W. B. Saunders Company, 218 W. Washington Square, Philadelphia 5, Pennsylvania.
- J. L. Schilling Co., 260 5th Avenue, New York 1, New York.
- Science Press, N. Queen Street & McGovern Avenue, Lancaster, Pennsylvania.
- Science Research Associates, Occupational Information Division, 228 S. Wabash Avenue, Chicago 4, Illinois.
- Scott, Foresman & Company, 114-120 E. 23rd Street, New York 10, New York.
- William R. Scott, Inc., 513 Avenue of the Americas, New York 11, New York.
- Charles Scribner Sons, 597-599 5th Avenue, New York 17, New York.
- Sears Publishing Company, 432 4th Avenue, New York 16, New York.
- Geo. L. Shuman & Co., 551 5th Avenue, New York, New York.
- Signal Press, Evanston, Illinois.
- Silver Burdett Company, 45 E. 17th Street, New York 3, New York.
- Simon & Schuster, Inc., 1230 Avenue of the Americas, Rockefeller Center, New York 20, New York.
- L. W. Singer Company, 249-259 W. Erie Boulevard, Syracuse, New York.
- Albert P. Sloan Foundation, Inc., 30 Rockefeller Plaza, New York, New York.
- Society for Visual Education, 100 E. Ohio Street, Chicago, Illinois.
- South-Western Publishing Company, Inc., 345 Broadway, New York 13, New York.
- Stokes (See J. B. Lippincott).
- Strathmore Educational Service, P. O. Box 10, Aurora, Illinois.
- Studio Publications, 381 4th Avenue, New York 16, New York.
- Sun Dial Press (See Garden City Publishing Co.).
- Superintendent of Documents, U. S. Government Printing Office, Washington, D. C.
- Teachers College, Columbia University, 525 W. 120th Street, New York 27, New York.
- Telegraph Press, Cameron & Kelker Streets, Harrisburg, Pennsylvania.
- Frederick Unger Publishing Co., 105 E. 24th Street, New York 10, New York. (Purchased Stephen Daye Press, Inc.)
- University of Chicago Press, 5750 Ellis Avenue, Chicago 37, Illinois.
- University of North Carolina Press, Box 510, Chapel Hill, North Carolina.
- University of Pennsylvania Press, 3436 Walnut Street, Philadelphia 4, Pennsylvania.
- University of Pittsburgh Press, Bigelow & Parkman Streets, Pittsburgh, Pennsylvania.
- University Publishing Company, 239 4th Avenue, New York 3, New York.
- U. S. Government Printing Office (See Superintendent of Documents).
- U. S. Office of Education (See Federal Security Agency).
- Vanguard Press, 424 Madison Avenue, New York 17, New York.
- D. Van Nostrand Company, Inc., 250 4th Avenue, New York 3, New York.
- The Viking Press, Inc., 18 East 48th Street, New York 17, New York.
- The P. F. Volland (See Wise Book Co.).
- Frederick Warne & Co., Inc., 79 Madison Avenue, New York 16, New York.
- Weber & Costello Co., Chicago Heights, Illinois.
- Webster Publishing Co., 1800-1808 Washington Avenue, St. Louis 3, Missouri.
- Western Reserve University Press, 10940 Euclid Avenue, Cleveland 6, Ohio.
- Wheeler Publishing Company, 2831-35 S. Parkway, Chicago 16, Illinois.
- Albert Whitman & Company, 560 W. Lake Street, Chicago 6, Illinois.
- John Wiley & Sons, Inc., 440 4th Avenue, New York 16, New York.
- The H. W. Wilson Company, 950-972 University Avenue, New York 52, New York.
- Wineland Publishing Co., First National Bank Building, Juniata Station, Altoona, Pennsylvania.
- John C. Winston Company, 1006-1020 Arch Street, Philadelphia 7, Pennsylvania.
- Wise Book Company, 381 4th Avenue, New York 16, New York. (Acquired publications of Volland.)
- World Book Company, 313 Park Hill Avenue, Yonkers-on-Hudson 5, New York.
- Yale University Press, 386 4th Avenue, New York 16, New York.
- The Zaner-Bloser Co., Columbus, Ohio.

SPECIAL DAYS FOR THE SCHOOL CALENDAR

All days or weeks marked with an asterisk (*) are provided for under the School Laws of Pennsylvania; those marked with a dagger (†) are approximate, as the dates vary from year to year.

September

- 13°—Commodore John Barry's Birthday—1745. John Barry Day to be designated by Governor's Proclamation. To be observed by appropriate exercises in the schools. (School Laws 4008)
- 14°—National Anthem Day—Commemorates the writing of The Star-Spangled Banner on September 14, during the Battle of Fort McHenry in the War of 1812. Act 46, 1947 General Assembly, calls for its observance with appropriate exercises in the public schools and other educational institutions.
- 17 —Constitution Day. Constitution of the United States signed on this day in 1787.
- 28°—Frances Willard's Birthday—1839. A part of the day or school day nearest such day may be set aside in each school for a study of her life and the principles she advocated. (School Laws 4002)
- Last week in September—Religious Education Week.

October

- 17°—Fall Arbor and Bird Day—No particular day designated. (School Laws 4001 and 4001A.) Fall Arbor and Bird Day to be designated by the Governor. At least two hours of such day to be given in the schools to the study of wild birds.
- 6-12†—Fire Prevention Week.
- 11°—General Pulaski Day—To be designated by Governor's Proclamation. Urge observance in the schools. (Commemorates this patriot's death.) (School Laws 4005)
- 12 —Columbus Day. Discovery of America. 1492.
- 20-26†—National Child Accident Prevention Week.
- 21-27†—National Bible Week.
- 24°—William Penn Day—To be designated by proclamation unless such day falls on Saturday or Sunday, then the preceding Friday or following Monday. Schools to observe William Penn's Birthday Anniversary, 1644. (School Laws 4004)
- 27 —Navy Day
- 27 —Theodore Roosevelt's Birthday, 1858.
- 31 —Birthday of Juliette Low, Founder of Girl Scouts. Girl Scout Week begins first Sunday in October nearest October 31.

November

- Early in November—National Book Week.
- 1-7†—Good Citizens Week.
- 10 —Marine Day. Created November 10, 1775, by act of Continental Congress.
- 11 —Armistice Day. (Included in American Education Week)
- American Education Week.
- 19 —Dedication Day—Anniversary of Lincoln's Gettysburg Speech. (Public Law 645)
- Fourth Thursday in November—Thanksgiving.
- Thanksgiving to Christmas—World-Wide Bible Reading Program.

December

- 15 —Bill of Rights Day. On December 15, 1791, the last State (Virginia) necessary for approval, ratified the Bill of Rights. It was then written into the United States Constitution.

- 16-21°—Bill of Rights Week to be designated by the Department of Public Instruction. Exercises to be prescribed and carried out in the public schools on the purposes, meaning, and importance of the "Bill of Rights." (School Laws 4007)
- Christmas Seals.

25 —Christmas.

January

- 1 —Good Neighbor Day.
- 5 —George Washington Carver's Birthday—1864. Negro chemurgist, an agricultural experimenter. Developed more than 300 products.
- 17 —Benjamin Franklin's Birthday—1706. (Thrift Week includes this date).
- Thrift Week.

February

- 1 —National Freedom Day, February 1, 1865, President Lincoln signed the Thirty-eighth Congress resolution to submit the Thirteenth Amendment (prohibiting slavery) to the States for ratification.
- 5 —National Social Hygiene Day.
- 8 —Boy Scouts of America founded in 1910. Boy Scout Week includes this date.
- Boy Scout Week.
- 11 —Thomas A. Edison's Birthday—1847.
- 12 —Abraham Lincoln's Birthday—1809.
- 17 —Child Welfare Day, Anniversary of the Founding of the National Congress of Parents and Teachers.
- 22 —George Washington's Birthday—1732.
- 22 —Thinking Day—Girl Scouts.
- 22-28†—Father and Son Week—Last week in February.
- 19-26†—Late in February—National Brotherhood Week (Catholic, Jewish, Protestant).

March

- 10-16†—American Legion Week, founded in 1919.

April

- First Week in April—Negro Health Week.
- Cancer Control Month.
- 1-11°—Free School Day, Commemorating the Founding and Developing of Free Public Schools within the Commonwealth under the Free School Act, effective April 1, 1834—to be designated by Governor's Proclamation. Urge observance in the schools. (School Laws 4006)
- 6 —Army Day. (School Laws 4006)
- 7-13†—Be Kind to Animals Week—Federated Humane Societies of Pennsylvania.
- 9°—Arbor Day—(Dr. T. J. Rothrock's Birthday)—To be appointed each year by the Governor. (School Laws 4001A)
- 9°—Bird Day—the same as above. (School Laws 4001)
- 9°—Conservation Week—To be observed the week in which April 9 falls—Governor's Proclamation. (School Laws 4001A)
- 14 —Pan American Day, Anniversary of the Founding of the Pan American Union in 1930, dedicated to peace and unity among the free American Republics.
- 22-27†—World Fellowship Week.
- Last week in April—National Boys and Girls Week.

May

- 1 —National Child Health Day.
- 1 —Americanism Day.

- 8 —V-E Day—1945. (Surrender of European Forces of the Central Powers to the Allies.)
- 6-13†—National and International Music Week.
—Second Sunday in May—Mother's Day.
- 11†—School Safety Patrol Day.
- 12-18†—Physical Fitness Week, second week in May, sponsored by Pennsylvania Health, Physical Education and Recreation Association.
- 18 —Citizenship Day (Also termed "I Am an American" Day). Citizenship Week is the third week in May.
- 22 —National Maritime Day. In 1819, the first successful crossing of the Atlantic by steam-propelled ship was made by the American steamship Savannah.
- 30 —Memorial Day.

June

- 14 —Flag Day.
- 15 —Infantry Day.
—Third Sunday in June—Father's Day.

July

- 4 —Independence Day. (July 4, 1776, Declaration of Independence approved.)

August

- 1 —Army Air Forces Day—Anniversary of the Air Forces' creation as separate unit of the Armed Forces.
- 4 —Coast Guard Day.
- 14 —V-J Day—1945. (Surrender of Japanese forces to the United States Armed Forces.)

LIST OF MATERIALS FOR THE TEACHER OF ELEMENTARY SCIENCE

The following list of materials is suggestive. No list could be complete. This equipment will provide for many activities in connection with the science aspects of the units.

Tools

- Claw hammer
- Screw driver
- Pliers with wire cutter
- Vise—if there is a place to fasten it
- Saw

Materials

- Baking soda, 1 pkg.
- Balances, 1 set that will weigh to .1 gram
- Balloons, rubber, several, medium to large size
- Boards, 6 white pine, 6' x 6" x ¾"
- Boat, 1 small toy boat
- Bucket, 1 8-qt. galvanized bucket
- Bunsen burner and rubber tubing, if there are gas attachments; alcohol burner or electric hot plate, otherwise
- Candles, large and small sizes, 6 of each
- Cans, 6 tin cans, size 2½"
- Cards, 2 pkgs. of 3" x 5" cards
- Cellophane, clear and colored
- Clay, various colors, permanently soft clay (Permoplast)
- Compass
- Cookie tins, 6, size 10" x 15", for making animal cages
- Corks, 12, sizes to fit bottles used in classes
- Electric hotplate—for heating water or other materials
- Filter paper, 1 pkg.
- Fish food, 1 pkg.
- Flashlight and batteries, 2 cell
- Flower pots—10 4" pots, 10 3" pots, 10 2½" pots
- Garden soil, 1 bushel
- Glass, 12 pieces, 5" x 7"
- Glasses, 6 ordinary drinking glasses
- Hardware cloth, ¼" mesh, 10 ft.
- Ink, India ink
- Insect nets, 2
- Iodine, tincture
- Iron filings, ½ lb.
- Jars, 10 1-gallon pickle jars with widest mouths possible; for aquaria, terraria
- Magnets, 2 permanent bar magnets and 2 permanent horse-shoe magnets
- Magnifying glass, 2" or 3"

Glass marbles, 100

Measuring devices

- 1 set of measuring spoons
- 1 measuring cup
- Foot rule, yardstick, meter stick

Mimeograph ink, ½ lb.

Nails, 3 lbs., assorted sizes

Needles, 1 pkg.

Paint brushes, 2 small

Pan, 1 aluminum cooking pan for heating water, etc.

Pie pans, 6, for making insect cages

Pins, long hatpins, 1 paper of pins, round-headed pins

Pins, 1 pkg. of insect pins

Plaster of Paris, 10 lbs.

Rubber bands, 1 box, assorted

Rubber cement, 1 tube

Rubber brayers (rollers), 4", 2

Rock salt, 1 lb.

Sand, 1 bushel

Scotch tape, 1 roll

Screen door wire, 10 ft.

Seeds, 1 pkg. of each—radish, tomato, marigold, zinnia

Seedboxes, 8" x 12" x 2½"

Soap, 3 cakes, white, for carving

Shellac, clear, 1 pt.

Stars, gummed, in various sizes

Steel wool, 1 pkg. of fine

String, one ball of strong string

Sugar, 1 lb.

Tea kettle, 1

Thermometer, 1 Fahrenheit

Thread, several spools of strong thread

Thumb tacks

Tooth brushes, 2

Vinegar, 1 qt.

Watch with sweep second hand

Wood screws, 1 box of assorted sizes

Wire, 50 ft. of insulated door-bell wire

Wrapping paper

Filing and Storing Equipment

An adequate system of filing and storing equipment should be inaugurated. Small boxes, each containing the equipment for several experiments, are recommended. Equipment can often be kept from year to year if there is room for storage.

SUPPLIES FOR ELEMENTARY INDUSTRIAL ARTS ACTIVITIES

No teacher and no one building will need all of these supplies. Every teacher can, however, use this list to good advantage in compiling a list which will be used in the types of activities she plans to carry on with her group. A teacher or a building principal should make out orders in relation to plans. It is wasteful and unnecessary to order just "on the chance" that an item may be useful.

Local sources or catalogs of large supply houses may be used. Each superintendent will know local sources and will have catalogs on file.

LIST OF SUPPLIES FOR INDUSTRIAL ARTS

Alcohol	Cards, Wool, 8"	Engobes, cone 05-06, Blue
Awl, Brad, 1 $\frac{1}{4}$ "	Cement, Portland (1 lb. pkg.)	Black
Bag, Emery	Clamp, "C", 2" (on pupil's desk)	Green
Beads, Wooden, $\frac{1}{2}$ " colored (1000)	3" (on workbench)	Red
1" colored (gross)	Clay, Flour, cone 05-06 (5 lb.)	Yellow
Bit, Auger, $\frac{1}{4}$ ", dowel	Red, cone 05-06 (5 lb.)	File, Auger Bit, 7"
$\frac{1}{2}$ ", dowel	—Permanently plastic	Three square, bastard, 6"
$\frac{3}{4}$ ", dowel	—Moist, cone 05-06 (50 lb.)	Gauge, Marking
1", dowel	Cloth, Burlap, natural, 40"	Glaze, cone 05-06, ($\frac{1}{2}$ lb.) Black
Bit, Twist, German, $\frac{4}{32}$ "	—Cheesecloth, white, 25"	Blue, dark
$\frac{5}{32}$ "	Cloth, Cotton, Remnants, Mill Ends	Brown
Blades, Coping Saw, 6" x $\frac{1}{16}$ "	(25 yd. to bdl.)	Clear, transp.
6" x $\frac{3}{32}$ "	—Crash, unbleached, 18"	White
Block, Coping Saw	—Flannel, Outing, 27", Black	Green, foliage
Blue Print Solutions, "A" and "B"	27", Brown	Orange
(2 oz. bottles)	27", White	Pink, dark
Board, Card, Tag Manila, 12" x 16" (50)	—Linene, 36", Natural	Purple
—Chip 6" x 9" (60)	—Muslin, 25", Brown, dark	Red
8 $\frac{1}{2}$ " x 11" (60)	25", Brown, light	White
12" x 15" (60)	Unbleached, 36"	Yellow
26" x 39" Medium	—Oilcloth, 36", White	Glue, 2 oz. tube
26" x 39" Heavy	—Pongee, 32"	Hammer, Claw, 7 oz.
—Press, Red, 9 $\frac{1}{2}$ " x 12 $\frac{1}{2}$ "	—Poplin, Ecru, 36"	Hook, Bench
—Stencil, 20" x 24"	—Sateen, Flowered, 36"	—Rug
Boiler, Double, aluminum, 2 qt.	Cocoons (silk), fresh	Ink, India, Drawing, Black ($\frac{3}{4}$ oz.)
Bowl, Earthenware, 2 qt.	Cord, for electric iron	—Printers, Black ($\frac{1}{4}$ lb.)
3 qt.	—Sash, $\frac{1}{4}$ "	Blue
—Enamelware, $\frac{3}{4}$ qt.	Cotton, unginned	Cerise
3 qt.	Countersink, Rose	Green
5 qt.	Crayons, Wax, assorted colors (24)	Orange
Box, Tool (1 per floor)	Crock, with lid, 2 gallon	Purple
Brace, plain (10" sweep)	—Lid, for above	Red
Brads, wire, $\frac{1}{2}$ ", No. 20	—With lid, 3 gallon	White
$\frac{3}{4}$ ", No. 18	—Lid, for above	Yellow
1", No. 17	Cup, Water color	Iron, Single (cutters for No. 2, 7"
1 $\frac{1}{4}$ ", No. 16	Dextrine, powdered, Yellow (1 lb.)	smoothing plane)
1 $\frac{1}{2}$ ", No. 14	Dowel, Birch, $\frac{1}{8}$ " x 36"	Jar, with top, 2 oz., empty
2", No. 14	$\frac{1}{4}$ " x 36"	Kiln, Stilts, 1"
Brayer (for spreading ink)	$\frac{1}{2}$ " x 36"	1 $\frac{1}{2}$ "
Broom, toy (for children), 30"	$\frac{3}{4}$ " x 36"	—Triangles, 2"
Brush, Bench, wired back	1" x 36"	3"
—Flat, $\frac{1}{2}$ "	Driver, Screw, 2" blade	—Wash (1 lb.)
—Paste, 1"	4" blade	Knife, Paring, 3" blade (clay work)
—Poonah, $\frac{1}{4}$ " (stenciling)	8 $\frac{1}{2}$ " blade	—Scribe (chip carving)
—Varnish, 1"	(over-all forged)	—Sloyd, full bevel, 2 $\frac{1}{2}$ "
—Water color, No. 3	Dyes, Liquid, Batik (2 oz.), Black	Lacquer, Book (1 qt. can)
No. 7	Blue	Linen, Fiber (4 oz.)
No. 10	Brown	Linoleum, 12" x 15", Brown
Camphor	Green	Magnet, Bar, 15 cm.
Can, Ash, 26" deep, 15" diam.	Orange	Mold, Button, 2" ($\frac{1}{12}$ of unit)
—Cover for above	Purple	Nail Sets, $\frac{7}{32}$ " tip
Can, Oily Waste, 11 $\frac{1}{2}$ " x 18 $\frac{1}{2}$ "	Red	Nails, $\frac{7}{8}$ ", No. 17
	Yellow	1", No. 17
		1 $\frac{1}{4}$ ", No. 15
		1 $\frac{1}{2}$ ", No. 14
		2", No. 14

Needles, Crewel, No. 3 (25)	Punch, Eyelet, 6½"	Liner, curved, cutting linoleum
—Crochet, Bone, No. 5	Eyelets for above punch (250)	pointed, cutting linoleum
No. 10, 8"	Raffia, Natural (1 lb.)	Modeling for clay work
—Sewing, No. 5 (25)	Black	Plane, smoothing, No. 2, 7"
—Tapestry, No. 18 (10)	Blue	Punch, eyelet
Oil, Sewing Machine (3 oz.)	Green	Saw, Back, 8"
Pail, Water, 12 qt., galvanized	Red	10"
Paint, Cold Water, Black	Rags, Carpet, Black (½ lb.)	—Compass, 8"
Blue	Blue, med.	—Crosscut, 12" (11 points)
Brown	Brown	22"
Green, Std.	Green	—Rip, 22"
Orange	Maroon	Scissors, 5"
Red	Orange	
White	Pink	Tray, Wood, 12" x 18"
Yellow	Tan	Turpentine
—Enamel, Eggshell White	White	Twine, No. 6, India (65 yd.)
Green (½ pt. can)	Reed, Round, No. 2	Vellum, Blue (38")
White (½ pt. can)	No. 4	Brown
—Oil, Black, 4½" x 1½" tubes	Sand, Concrete (12½ lb. bag)	Green
Blue, cobalt	Saws, Back, 8"	Red
Crimson	10"	
Green (viridian)	—Compass, 6"	Vise, Clamp Base, 1¾" Jaws
Sienna, burnt	—Coping (frame and 1 doz. blades)	Waste, cotton, light colored (stuffing)
Vermilion	—Crosscut, 12", 10 points	Wax, prepared, yellow (1 lb.)
White	22", 10 points	Wire, Iron, annealed, bright, No. 20
Yellow, Med. (cadmium)	—Rip, 22", 7 points	Wood, Balsa, 9", 1¾" x 1¾"
—Undercoating, Flat White	Scissors, 5"	12", 2½" x 3"
Pan, Enamel, ⅝ qt. (4¾" diam.)	Screws, 1", No. 8	Basswood, S2S, ¼" x 1"
—Pudding, 4 qt., Enamel, White	1¼", No. 8	¼" x 1¾"
Paper, Blotting, White, 19" x 24"	1½", No. 10	¼" x 3"
—Book, 9" x 12"	2", No. 12	¼" x 4"
12½" x 19"		¼" x 5"
—Construction, 12" x 18" (100)	Shellac, White, 4 lb., cut	½" x ½"
Black	Skin, Sheep (2" x 5")	½" x 1"
Blue	Soap, Flakes (13 oz.)	½" x 1½"
Brown, dark	Solder, Liquid, heatless, 1½ oz.	½" x 3"
light	Spoon, Basting, Enamel, 14" over-all	½" x 4"
Gray	—Wooden, 12"	½" x 5"
Green	Square, Try, Iron Handle, 8"	1" x 1"
Orange	Stain, Water (powder), Mahogany ¾ oz.	1¾" x 1¾"
Purple	8 oz.	—4' x 1', S2S to ¼"
Red	Walnut ¾ oz.	6', S2S, ½" x 2"
White	8 oz.	6', S2S to ¼" (12 sq. ft.)
Yellow	Tacks, copper, ⅝", No. 2½ (2 oz.)	to ⅜" "
—Cover, Box, 12" x 15", Blue (100)	Tape, Binding, Gummed, Black, 1"	to ½" "
Brown	(12 yd.)	to 13/16" "
Green	Cotton, White, ½" (36 yd.)	
—Cross-section, ⅛", 9" x 12" (50)	Kraft, gummed, 1½" (800 ft.)	
—Drawing, White, 12" x 18"	Thimbles, No. 5	
—Kraft, Brown, 9" x 12", 60 lb.	No. 6	
(100)	No. 7	
12" x 18", 40 lb.	Thread, Binders, Linen No. 20 (75 yd.)	
—Sand, Flint, No. 0	—Crochet, Black (75 yd.)	
No. 1	Blue	
—Tonal, 9" x 12", asst'd colors	Brown	
(100 sht.)	Green	
—Tracing, 12" (20 yd.)	Orange	
Papyrus (plant, dry)	Red	
Paraffin, melting about 52°	White	
Paste, Powder (1 lb.)	Yellow	
Pins, Cotter, ⅜" x 1½" (100)	—Knitting, White	
Small, ¼ lb.	—Sewing, Black, No. 50 (200 yd.)	
Plane, Smoothing, No. 2, 7"	White, No. 50 (200 yd.)	
Plaster of Paris (5 lb.)	Tongue Depressors (500)	
Plate, Hot, Electric, Single Unit	Tools, Brace, Plain	
Pliers, Cutting side, 6", Flat Nose	Gauge, Marking	
—Round Nose, 4"	Gauge, medium-cutting linoleum	
Pot, with cover, Agate, 19 qt.	Hammer, Claw, 7 oz.	
Pulp, Paper, Beaten Wet (1 pt.)		

SIMPLE RECIPES

Recipe for Finger Paint

1 cup laundry starch
1 quart boiling water
1 cup soap flakes
Paint—powder or poster

Mix the starch with enough cold water to make a smooth paste. Add the boiling water slowly, stirring until it thickens. Beat in the soap flakes. This mixture is the base for finger paint.

When cool, the base can be stored for future use, or portions of it can be mixed with different colored paints. Stir in the paint, a little at a time, mixing thoroughly until the desired color is obtained.

Keep the base and the finger paint in separate covered airtight containers.

Preparing Powdered Clay¹**Proportions:**

1½ pints of water to 5 pounds (1 package) of clay.

Mixing:

Clay should be mixed a week or more before it is to be used.

Line a crock with a dampened cloth, the corners hanging over the edge of the crock. Pour in the clay powder, then the water. Add clay and water alternately when preparing more than one package of clay. Do not stir. Put the lid on the crock.

A week later, lift the cloth containing the clay from the crock and place it on newspapers on the floor. Grasp the cloth firmly and pound the clay on all sides. This pounding removes the air bubbles which cause a clay object to crack when dry.

Test the clay by rolling a small lump of it between the hands. If it is ready to use, it will form a roll which is neither so wet that it sticks to the hands, nor so dry that cracks appear. If the clay is too wet, expose it to the air, pounding it occasionally until it dries enough. If the clay is too dry, make several holes in it, and fill them with water. When this water has soaked in, pound the clay again and test it.

Storing for Future Use:

Clay can be kept in a usable condition indefinitely. Cut the ball of clay into six or eight pieces. String or wire may be used to cut it. Shape the pieces into bricks in the crock and cover with a damp cloth. Replace the lid and store in a cool place until needed.

Recipe for Making Papier-Mâché Pulp

Pulp papier-mâché is a modeling material that can be made by using newspaper and paste. Papier-mâché articles are light in weight, hard and strong; and they can be decorated, using poster or powdered paint.

Three large sheets of newspaper will make about one cup of pulp. A large quantity of pulp can be made and stored. Add paste only on the day that the pulp is to be used, since paste becomes moldy in a short time.

The newspaper can be reduced to pulp in various ways. Two methods are given:

¹To make clay articles more durable without firing, use dextrine—Line No. 012116—as the hardening medium. Sift ¼ lb. of dextrine into 5 lbs. dry clay. Increase the amount of water by a half cup. This mixture will become sour if kept more than two weeks. Articles made of clay and dextrine must not be put into the kiln.

OR

Tear several thicknesses of newspaper into strips and then into pieces about the size of a nickel. (Dampen the paper to make tearing easier.) Let the pieces fall into a pan of warm or hot water.

Take handfuls of the wet pieces and tear them finer with a wringing motion.

Rub the pulp between the hands with a scrubbing motion.

Continue the rubbing or pounding until the pulp is very fine and no bits of newspaper can be seen.

Put the pulp into a cloth and squeeze to remove as much water as possible. Store the moist pulp in a covered container until needed.

Crumple sheets of newspaper one at a time and put into a pail of water. Be sure that all paper is thoroughly wet. (If the paper is soaked for an hour or longer the work will be easier.)

Pour off excess water.

Pound and grind the paper into pulp, using the ends of two sticks, one in each hand.

Making Sensitized Paper for Blueprints**Materials required:**

1 set of blueprint solutions*
“A”—ferricyanide of potassium
“B”—citrate of iron and ammonium
Bond paper or good quality typewriter paper*
Chipboards* slightly larger than paper*
Thumb tacks*
Varnish brush*
Teaspoon
China or glass dish to hold solution
Carton for use as a drying cabinet

* These items are on the Supply List (Form SEHV 301)

Method:

Put one teaspoon of each solution in the dish and mix thoroughly. This amount is sufficient to coat about six sheets of paper 5½" x 8½". Fasten the paper to the chipboard to prevent curling.

Hold the chipboard at an angle and apply a wash of the solution to the paper. Begin at the top edge, using parallel strokes. Be careful to cover the entire surface. Work quickly enough to prevent any part from drying before the whole coat has been applied. Two coats give a better printing surface than one. The second should be brushed on while the first is still moist.

Press the excess solution from the brush and go over the surface of the paper once more, in parallel strokes at right angles to the previous ones. This helps to remove surplus liquid and to give an even coating.

Suggestions for drying and storing sensitized paper:

Stand the chipboard with the paper attached in a carton. Cover the box to insure darkness while the paper is drying.

Remove paper from chipboard when dry and place it immediately between the pages of an old book or in a shallow box with a lid. Avoid exposing the paper in a strong light.

The following recipe is given for those teachers who wish to prepare their own blueprint solutions:

1¼ ounces of ferricyanide of potassium (crystals)
17½ ounces of citrate of iron and ammonium (scales)

Dissolve each chemical in 8 ounces of water (1 half-pt. cupful) and keep the solutions in separate bottles. *The liquids will keep indefinitely if bottles are stored in a dark place. Do not combine the solutions until needed.*

PROCEDURE FOR POSTPONEMENT OF ADMISSION TO OR FOR CONTINUATION IN FIRST GRADE

The term "postponement" rather than "suspension" is used since "suspension" is written into the law which concerns incorrigible children and it seems advisable to clarify terminology.

The following regulations were adopted by the State Council of Education on January 2, 1945:

1. On recommendation by any supervising principal or teacher, a superintendent or a supervising principal may, on approval or authorization by his board of school directors, postpone the admission to or continuation in the first grade of public school any child who has been found, on appropriate individual mental test or examination properly administered in a mental clinic that is approved by the State Council of Education or by a person who is certificated by the Department of Public Instruction as a psychological examiner or as a public school psychologist, to have a mental age of five years or less. After due lapse of time, as determined by the intelligence quotient of the child, or on the basis of results obtained on an appropriate reexamination not before the first of September of the school year next following the school year in which the postponement was made, a child may be reconsidered for admit-

tance into the first grade, for further postponement, or permanent exclusion on grounds of mental incapacity.

2. A child who is a beginner and is under eight years of age, as of the first day of February of that school year, may be withdrawn from the active roll upon the recommendation of the school psychologist or the school physician and with the consent of the parent or guardian. The code to be used in the register for such withdrawal shall be: W13 under eight years of age and did not enter, or withdrawn with the consent of the parent or guardian upon recommendation by the school physician or the school psychologist.

Three points in this provision should be emphasized: the examination of mental ability is to be made by a properly certificated examiner; postponement of admission by board action, under paragraph one of this regulation, is a temporary measure; and, although the use of paragraph two of this regulation does not require board action, it is to be used only upon the recommendation of a physician or psychologist. It is not considered necessary to submit a report of these cases to the Department of Public Instruction.

NOTES FOR 233-C

405K T 21C 848

ERIE PUBLIC SCHOOLS
Erie, Pennsylvania
RECORD OF PROGRESS
FOR THE SCHOOL YEAR 19—19—
KINDERGARTEN

[Form in use carries an attractive picture here]

“The future of the race
marches forward on the
feet of little children.”
—Phillips Brooks

Pupil _____
Address _____
School _____
Teacher _____

The purpose of the Record of Progress is to keep parents informed of their children's progress in school. The Record should be studied carefully.
A conference between parents and teachers is often helpful. Teacher-parent conferences are usually held from 3:30 P. M. to 4:00 P. M. Conferences arranged in advance are most satisfactory.
Parents are invited to visit classes while school is in session.

C. Herman Grose
Superintendent of Schools

ATTENDANCE RECORD

Regular attendance is necessary for success. It stimulates interest and makes possible greater progress.
Tardy bells ring at 8:50 A. M. and 1:00 P. M.
Morning session closes at 11:30 A. M.; afternoon session at 3:30 P. M.

	First Period	Second Period	Total	Third Period	Fourth Period	Total
Days Present						
Days Absent						
Days in Attendance Period						
Times Tardy						

(The Record of Progress will be issued four times each year—at the middle and end of each semester).

FIRST SEMESTER

First Report Period—
Parent's Signature _____

Second Report Period—
Parent's Signature _____

SECOND SEMESTER

Third Report Period—
Parent's Signature _____

Fourth Report Period—
Parent's Signature _____

Explanation of Marks O—Outstanding S—Satisfactory N—Needs to Improve	First Report	Second Report	Third Report	Fourth Report
CITIZENSHIP: Participates happily in Kindergarten activities.....				
Respects the rights and property of others.				
Values and cares for own property.....				
Responds quickly to requests.....				
Is developing self-control.....				
Is courteous.....				
HEALTH: Clean and neat in appearance.....				
Good posture.....				
Relaxes during rest period.....				
ACHIEVEMENT: Listens attentively.....				
Is developing good thinking habits..				
Is able to follow directions.....				
Refrains from asking help unnecessarily.....				
Speaks well before the group.....				
Tends to use correct English.....				
Shows interest in pictures and books.....				
Responds well in song and rhythm.....				
Works in an orderly manner.....				
Finishes work begun.....				

The purpose of the Record of Progress is to establish a spirit of understanding between the home and the school.
Special Message to Parents
FIRST REPORT: _____ _____ _____
SECOND REPORT: _____ _____ _____
THIRD REPORT: _____ _____ _____
FOURTH REPORT: _____ _____ _____

PUPIL'S HEALTH RECORD

Last Name First Name & Initial Sex Color Parent Nativity

Mo. Day Yr. Date of Birth Place State Birth Certf Issued No of Certificate

SCHOOL	DISTRICT	COUNTY	ADDRESS

Mo. Day Yr. Vac Cert Issued Type Name of Physician Name of School Physician
Confirming Cicatrix

Father's Name Mother's Name

Birthplace Birthplace

HEIGHT AND WEIGHT

Year							
Height	in.	in.	in.	in.	in.	in.	in.
Weight	lb.	lb.	lb.	lb.	lb.	lb.	lb.

MEDICAL HISTORY

Allergy (Specify)	Date	Influenza	Date	Rheumatic Fever	Date
Asthma		Intestinal Worms		Scarlet Fever	
Bronchitis		Measles — German		Small pox	
Chicken pox		Menstrual		Tonsillitis	
Chorea		Mumps		Tuberculosis — Self	
Diphtheria		Pleurisy		Tuberculosis — Family	
Enuresis		Pneumonia		Typhoid	
Epilepsy		Poliomyelitis		Whooping Cough	
Hernia (Rupture)		Rheumatism			

Operations Appendectomy Herniotomy Tonsillectomy Cleft Palate Misc

IMMUNIZATIONS — TESTS

DISEASE		DATE COMPLETED	RESULTS
Diphtheria	Schick Test		
	Further Immunizations		
	Schick Test		
Scarlet Fever	Dick Test		
	Further Immunizations		
	Dick Test		
Tetanus	Single		
	Combined		
	Recall		
Whooping Cough	Single		
	Combined		
Tuberculosis	Mantoux Test — Dilution		
	Positive Mantoux		
	Negative Mantoux		
Typhoid Fever			

ORTHOPEDIC AND NEUROLOGICAL – COMPLETE

Date		Date	
Gait		Flat Feet	
Limp		Arch High	
Spine Straight (Rear)		Calloused Feet	
Spine – Normal (Side)		Bunions	
Deformity (Chest)		Pelvis Balance	
Shoulders — Straight — Stooped		Knee Reflexes	
Head — Erect — Forward		Pupillary Reflexes	
Pelvis — Straight — Tilted		Tremors	
Feet Longitudinal Standing		Coordination	
Legs — Bowed — or Knock-kneed		Limbs Missing	
Name Examining Physician		Other Deformities	

EARS

Ear Examination		Date:		Date:		Date:		Date:		Date:	
	Auricle	R	L	R	L	R	L	R	L	R	L
	Mastoid	R	L	R	L	R	L	R	L	R	L
	Canal	R	L	R	L	R	L	R	L	R	L
	Cerumen	R	L	R	L	R	L	R	L	R	L
	Pain	R	L	R	L	R	L	R	L	R	L
	Otorrhea	R	L	R	L	R	L	R	L	R	L
	Granulations	R	L	R	L	R	L	R	L	R	L
	Drum — Retraction	R	L	R	L	R	L	R	L	R	L
	Drum — Perforation	R	L	R	L	R	L	R	L	R	L
Drum — Congestion		R	L	R	L	R	L	R	L	R	L
Audiometer test only		R	L	R	L	R	L	R	L	R	L

A — Group Audiometer IA — Indiv. Pure Tone N — Normal L — Loss

Other findings and recommendations of the Medical Examiner

Classroom Adjustment

Parents Contacted

Other Considerations

RECORD OF SCHOOL PROGRESS

PERSONALITY FACTORS

School Year	Grade	Days Present	Days Absent	Reading	Arithmetic	Spelling	Penmanship		Dept.	Average	Promotion	TEACHER — SCHOOL

Special Tests & Remarks

NAME OF MEDICAL EXAMINER	ADDRESS	YEAR

REMARKS

NURSE'S FOLLOW-UP

MEDICAL EXAMINATION

Grade													
Year													
		Exam.	Cor.	Exam.	Cor.	Exam.	Cor.	Exam.	Cor.	Exam.	Cor.	Exam.	Cor.
Head	Scalp												
Nose & Throat	Discharge												
	Obstruction												
	Tonsils												
	Pharynx												
Mouth	Mucous Memb.												
	Palatal Arch												
	Speech												
Neck	Cervical Gl.												
	Salivary Gl.												
	Thyroid — P.V.												
Chest	Forced Exp.												
	Full — Insp.												
Lungs	Percussion												
	Auscultation												
	X-ray requested												
Heart	Size												
	Murmur												
	Apex Beat												
	Hypertrophy												
	Pulse Rate												
	Reg. — Irreg.												
	Funct. Test												
	Blood Press.												
Abdomen	Liver												
	Spleen												
	Hernia												
	Masses												
Glands Not Cervical	Axillary												
	Epitrochlear												
	Inguinal												
Skin	Lesions — Com.												
	Lesions — Other												
Nutrition													
Eyes	Strabismus												
	Corneal Def.												
	Infection												
	Blepharitis												
	Discharges												
Vision 20 Feet	Without	R											
	Glasses	L											
		Both											
	With	R											
	Glasses	L											
		Both											
Vision 14 Inches	Without	R											
	Glasses	L											
		Both											
	With	R											
	Glasses	L											
		Both											

EXETER TOWNSHIP ELEMENTARY PERSONNEL RECORD

Name										Present Address																			
Birth Date																													
Birth Place										Telephone																			
Color					Sex					Religion																			
Check Grade in School		1	1	2	2	3	3	4	4	5	5	6	6	Name of School															
Names of Relatives					Birth Date					Birth Place					Address					Occupation or Grade in School									
Father																													
Maiden Name of Mother																													
Brothers & Sisters																													
Other Marriages By Parents					Date					Place					Death or Div. and Date					Address if Living									
Children of Above Unions					Birth Date					Birth Place					Address					Occupation or Grade in School									
Others in Present Household										Age					Relationship														
Previous Addresses and Dates of Family																													
Length of Time in the State										Length of Time in the County										Citizenship of Parents									

[Page 1]

Preschool Experiences (Health—Emotional—Habits—Hobbies):

Subjects Studied	Grade_____	Grade_____	Grade_____	Grade_____	Grade_____	Grade_____	Grade_____	Grade_____
	19__ '___	19__ '___	19__ '___	19__ '___	19__ '___	19__ '___	19__ '___	19__ '___
	Fin. Avge	Fin. Avge	Fin. Avge	Fin. Avge	Fin. Avge	Fin. Avge	Fin. Avge	Fin. Avge
READING								
ENGLISH								
SPELLING								
HANDWRITING								
ARITHMETIC								
GEOGRAPHY								
HISTORY								
HEALTH								
MUSIC								
ART								
DAYS ATTENDED								
DAYS ABSENT								

STANDARDIZED TESTS

Form & Name of Test	Administrator	Date Given	Results—Score & Meaning

Additional Tests shall be listed on the other side.

PUPIL'S GROWTH GRAPH OF STANDARDIZED TESTS I. Q. _____

Name of Pupil _____ Sch. Dist. Exeter Township

Grade Place	Chron. Age	Read. Comp.	Read. Voc.	Arith. Reason.	Arith. Comp.	English	History	Geography	Elem. Science	Spelling	Grade Equiv.	Mental Age
.
1	16-0	.	.	.	.	.	.	.	.	.	11-0	16-0
.
.
1	15-0	.	.	.	.	.	.	.	.	.	10-0	15-0
.
.
9-0	14-0	.	.	.	.	.	.	.	.	.	9-0	14-0
.
.
8-0	13-0	.	.	.	.	.	.	.	.	.	8-0	13-0
.
.
7-0	12-0	.	.	.	.	.	.	.	.	.	7-0	12-0
.
.
6-0	11-0	.	.	.	.	.	.	.	.	.	6-0	11-0
.
.
5-0	10-0	.	.	.	.	.	.	.	.	.	5-0	10-0
.
.
4-0	9-0	.	.	.	.	.	.	.	.	.	4-0	9-0
.
.
3-0	8-0	.	.	.	.	.	.	.	.	.	3-0	8-0
.
.
2-0	7-0	.	.	.	.	.	.	.	.	.	2-0	7-0
.
.
1-0	6-0	.	.	.	.	.	.	.	.	.	1-0	6-0

Encircle all subjects on the above graph which the standardized test includes. Some tests will not include 'all the subjects listed on this graph.

Extend the profile of each test into the right-hand margin—placing the name and form of the test above extended profile line and the teacher's name and date test was given below this line.

TEACHER'S EVALUATION OF CHILD'S PERSONAL AND SOCIAL GROWTH

Use the following key in the table below—1 Excellent, 2 Good, 3 Average, 4 Poor.

	Grade 1	Grade 2	Grade 3	Grade 4	Grade 5	Grade 6
General Personality						
Adjustment in Group						
Emotional Maturity						
General Behavior						
Disposition (General)						
Adaptability						
Persistence at a Task						
Attentiveness						
Punctuality						
Neatness						
Self-criticism						
Dependability						
Leadership						
Sportsmanship						
Courtesy						
Friendliness						
Self-confidence						
Cooperation						
Name of Teacher						

In the following table check the traits which characterize this child:

	Grade 1	Grade 2	Grade 3	Grade 4	Grade 5	Grade 6
Sluggishness						
Timidity						
Nervousness						
Suspiciousness						
Excitability						
Talkativeness						
Showing-off						
Lying						
Cheating						
Cruelty						
Stealing						
Destructiveness						
Stubbornness						
Temper Tantrums						
Day-dreaming						
Impulsiveness						
Depression						
Name of Teacher						

In the following table check what you found to be the most satisfactory treatment of this child:

	Grade 1	Grade 2	Grade 3	Grade 4	Grade 5	Grade 6
Reward						
Encouragement						
Stimulation						
Urging						
Allowing to Work Independently						
Personal Help						
Firm Insistence						
Isolation						
Deprivation of Privileges						
Name of Teacher						

	What are his educational difficulties?	What do you think are the causes?	What has been done to overcome them?
Grade 1 Teacher			
Grade 2 Teacher			
Grade 3 Teacher			
Grade 4 Teacher			
Grade 5 Teacher			
Grade 6 Teacher			

ELEMENTARY SCHOOL RECORD

ALTOONA SCHOOL DISTRICT

[illegible]

[575]

SOCIAL RECORD
ALTOONA
SCHOOL DISTRICT

P H O T O G R A P H S

NAME		Last		First		Middle		Sex		Color		Telephone	
ADDRESS		Place		Date of Entrance		Date of Withdrawal		State		Birth Cert No		Religion	
Date of Re-entrance		Reason		Year of Birth		Date of Death		Cause of Death		Naturalized		Religion	
Father's Name		Address		Country of Birth		Date of Birth		Cause of Death		Naturalized		Language Spoken	
YEAR: September													
* Mental Status													
Physical Status													
Employer													
Type of Work													
Mother's Name		Address		Country of Birth		Date of Birth		Cause of Death		Naturalized		Religion	
* Mental Status													
Physical Status													
Employer													
Type of Work													
Parents: Living Together													
Separated													
Divorced													
Remarried													
Other													
Brothers: No. Living													
No. Deceased													
No. In School													
No. Working													
No. Married													
Sisters: No. Living													
No. Deceased													
No. In School													
No. Working													
No. Married													
Residence: House Owned													
House Rented													
No. of Rooms													
Apartment													
Hotel													
Occupants: No. Parents													
In No. Brothers													
Home: No. Sisters													
No. Relatives													
No. Roomers													
No. Boarders													
* Public Agencies Affecting Child													

* These and other special cases should be supplemented by anecdotal material.

ALTOONA SCHOOL DISTRICT

[illegible]

ACTIVITIES

VOCATIONAL INTERESTS

Year: September													
Grade													
Baker													
Bookkeeper													
Business													
Contractor													
Architect													
Dentist													
Homemaker													
Lawyer													
Librarian													
Medicine													
Nurse													
Religion													
Social Worker													
Teacher													
Actor													
Musician													
Newspaper													
Radio													
Auto Mechanic													
Aviation													
Baker													
Bus or Truck Driver													
Carpenter													
Communication													
Draftsman													
Electrician													
Farmer													
Machinist													
Miner													
Plumber													
Printer													
Railroader													
Shoemaker													
Tailor													
Welder													
Armed Services													
Beautician													
Hotel Service													
House Work													
Seaman													
Nose													

•Number in order 1 to 3 pupil's choice for each year.

EDUCATIONAL FOLLOW-UP

MEDICAL RECORD

ALTOONA SCHOOL DISTRICT

NAME _____ Last _____ First _____ Middle _____
ADDRESS _____

Date of Birth _____			
Preventative Treatment		Surgical Treatment	
(Type)	(Date)	(Type)	(Date)
Smallpox		Tonsillectomy	
Diphtheria		Appendectomy	
Whooping Cough		Hernia	
Tetanus			
Scarlet Fever			
Cold Serum			
Contagious Diseases		Severe and Lengthy Diseases	
(Type)	(Date)	(Type)	(Date)
Measles		Rheumatic Fever	
Mumps		Pneumonia	
Chicken Pox		Heart Condition	
Diphtheria		Tuberculosis	
Scarlet Fever		Asthma	
Whooping Cough		Nervous Disorder	
Infantile Paralysis		Diabetes	
		Kidney Disease	
Serious Injuries		Tests	
(Type)	(Date)	(Type)	(Date)
		Audiometer	
		Tuberculin	
		Chest X-Ray	
		Wasserman	
Excuse for Gymnasium Work			
Date			
Reason			
Grade			

Excuse for Gymnasium Work

[illegible]

OTHER PERTINENT DATA

OTHER PERTINENT DATA

[illegible]

NAME _____

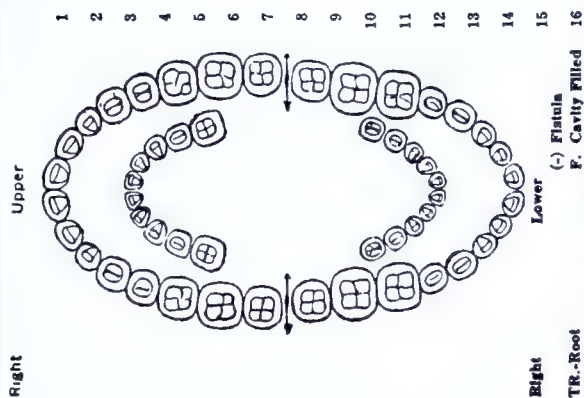
Test

First

Middle

ADDRESS _____

Date of Birth_____



RECORD OF CORRECTIONS

[illegible]

CHESTER PUBLIC SCHOOLS
Chester, Pennsylvania

INTERPRETATION OF REPORT
FOR GRADES ONE TO SIX AND SPECIAL CLASSES
Adopted September, 1944

The new report is designed to tie up our philosophy of education with our marking system. We are teaching children and not subject matter; and in so doing, each child is judged according to his own individual ability and maturity, and not by comparison with that of another child.

You will note four criteria (Does his best; Shows improvement; Could do better; Seems not to try;)—the very minimum evaluation of the pupil's achievement in the respective learning areas—have been listed as a starting point. Anything else that might apply to the progress of the individual child, upon whom you are reporting, should be added in each field of learning. Please attempt to say what specifically applies to that particular child. Follow our policy of using language which can be clearly understood. Do not use terms which only educators would employ. The message must be easily interpreted by every parent and child. This report should serve as a guidance device, used cooperatively by the teacher and parents, to help the child understand and evaluate his own growth.

The complete attendance record has been placed upon one page in order that an over-all picture of the child's attendance can be presented. Poor attendance, which may impede pupil progress, can thus be noted at a glance.

We have eliminated the stereotyped list of character traits, because, too often in reporting, the child was made to fit the listed traits. In order to present a true picture, a description of the habits, attitudes, and appreciations of the individual child must be recorded. In this report, space is provided so that the teacher may discuss the non-academic factors which contribute to the development of the child.

In making a report of this type, it is necessary that the teacher really knows each individual child. Notes of significant behavior patterns should be kept on forms which will be distributed. A summary of these notes will be the basis upon which the report will be issued.

Please observe that in this report the Language Arts include language, spelling, and handwriting; Social Studies, history, geography, and science.

We have tried to make the letter to parents very easy to understand, in order that it will be clear to all parents, without exception. Take every opportunity you can create to explain to parents the educational philosophy behind this report. Parents' comments should be studied carefully. Every available means should be used to increase our knowledge and understanding of the child concerned. In the fields

of art and music, the teacher should be very careful to recognize unusual talent; parents should be informed so that further study can be encouraged outside the school.

Reports will be issued four times yearly: November, February, May, and June. In June, only the last sheet of the report (grade placement) is filled out. The last page of the report will inform the parents of the child's grade placement for the following year. This announcement of grade placement is both a new feature of our reporting to parents as well as an official statement to parents, which has not been made to them in the past. The report that is given to the child in June then becomes the property of the family. It has been made attractive in color and design, so that pupils may take pride in keeping it.

Slips, such as we have previously issued between report periods, have been eliminated. However, an informal note should be sent to the parents whenever a teacher feels that the growth and development of a child are not proceeding in a satisfactory manner. This may be particularly necessary in the weeks between the opening of school and the date of the issuance of the first report.

The instructions for the transferral of report records to the Permanent File Folder will be included in the sheet of explanations which will accompany the Permanent File Folder when it is issued.

Since the report is issued in its entirety only three times a year, the work will not be found prohibitive.

We hope that these reports will serve the purpose for which they are intended. That purpose is to contribute to the maximal growth and development of each individual child, through the three fold cooperation of the teacher, child, and parents.

- Grading and Promotion Policies Committee:
- MRS. LAWS, *Chairman*..... (Washington)
 - MISS BEACHAM..... (Larkin)
 - MRS. GREENHALGH..... (Clayton)
 - MISS MUNDY..... (Graham Special)
 - MISS PIZZANO..... (Franklin)
 - MR. PLAFKER..... (Dewey-Mann)
 - MISS REPLOCLE..... (Psychologist)
 - MISS SCOTT..... (Morton)
 - MRS. WATKINS..... (Watts)
- Miss Riley (Secondary Schools' Guidance Committee Representative)
Dr. Catherine E. Geary (Director of Elementary Ed.)

(Teacher's record of report entries in case report form is lost, and for permanent filing in cumulative record.)

CHESTER PUBLIC SCHOOLS, CHESTER, PA. **SIGNIFICANT NOTES FOR ELEMENTARY SCHOOL REPORTS**

Name_____School_____Grade_____Teacher_____19____19____

	First Period	Second Period	Third Period
Reading			
Arithmetic			
Language Arts			
Social Studies			
Health Education			
Art			
Music			
Citizenship Attitudes, Traits, Habits, etc.			

GRADE_____PLACEMENT NEXT SEPTEMBER. PLACE THIS RECORD IN THE PUPIL'S
CUMULATIVE RECORD AT END OF TERM

CHESTER, PENNSYLVANIA
ELEMENTARY SCHOOLS

19__ – 19__

Report of _____
School _____ Grade _____
Teacher _____

[Page 1]

DEAR PARENTS:

This is a report of the progress of your child in whom we are interested.

The explanation of what your son or daughter is doing is based entirely upon his individual effort. No comparison is made with any other pupil and, in the best interests of _____, may we suggest that you join us and refrain from making such comparisons.

The teachers will express one of the following opinions about your child:

Does his best
Shows improvement
Could do better
Doesn't seem to try

Other suggestions to help his development may also be made.

You can help your child in two ways in his school relations:

1. Discuss with him his progress in school—his successes and weaknesses.
2. Confer with the principal and teacher about his progress or lack of improvement.

Prompt and regular attendance is essential to a pupil's growth in school. The State requires a written excuse for absence and lateness.

You are requested to acknowledge receipt of this report by signing it. A space has been provided for your remarks to the teacher.

Kindly return the report at once.

Very sincerely,
F. HERMAN FRITZ,
Superintendent of Schools.

[Page 2]

ATTENDANCE

Month	Days Absent	Times Late
SEPTEMBER through JUNE (10 months)		

[Page 3]

First Period*

The child's habits and attitudes are very important in his development. The teacher is discussing them below. A careful study by pupil and parent of everything that is said will help your child along the road that leads to successful living.

EXPLANATION OF WHAT YOUR CHILD IS DOING

Reading _____

Arithmetic _____

Language Arts _____

Social Studies _____

Health Education _____

Art _____

Music _____

PARENT'S COMMENTS:

PARENT'S SIGNATURE _____
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*Editor's Note: Three periods were provided in this card.
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